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ICAISD 2020

INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION SCIENTIFIC DEVELOPMENT

"Scientific Information for Living Welfare"


Prof. Zainal A. Hasibuan


Prof. Gerhard W. Weber


Prof. Dorien de Tombe


Prof. Dr. Herman Mawengkang

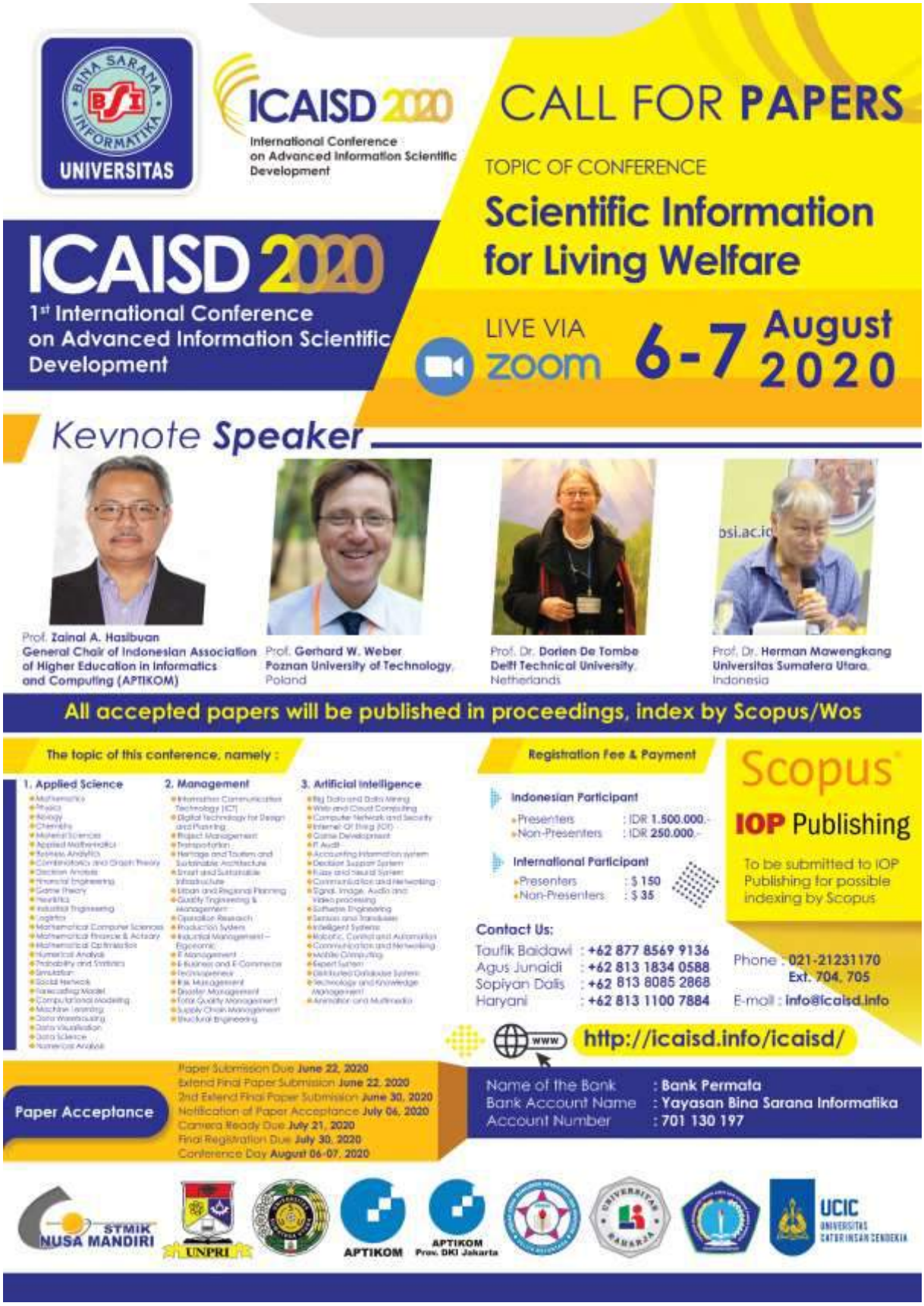
Program Book

LPPM UBSI

LIVE VIA zoom 6-7 August 2020

http://icaisd.info/icaisd/

APTIKOM APTIKOM Prov. DKI Jakarta STMIK NUSA MANDIRI UNPRI UCIC UNIVERSITAS CATUR INSAN CENDEKIA


UNIVERSITAS
ICAISD 2020
International Conference on Advanced Information Scientific Development
CALL FOR PAPERS
TOPIC OF CONFERENCE
Scientific Information for Living Welfare
ICAISD 2020
1st International Conference on Advanced Information Scientific Development
LIVE VIA zoom
6-7 August 2020
Keynote Speaker
Prof. Zainal A. Hasibuan
General Chair of Indonesian Association of Higher Education in Informatics and Computing (APTIKOM)
Prof. Gerhard W. Weber
Poznan University of Technology, Poland
Prof. Dr. Dorien De Tombe
Delft Technical University, Netherlands
Prof. Dr. Herman Mawengkang
Universitas Sumatera Utara, Indonesia
All accepted papers will be published in proceedings, index by Scopus/Wos
The topic of this conference, namely :
1. Applied Science
2. Management
3. Artificial Intelligence
Registration Fee & Payment
Indonesian Participant
Presenters : IDR 1.500.000.-
Non-Presenters : IDR 250.000.-
International Participant
Presenters : $ 150
Non-Presenters : $ 35
Scopus
IOP Publishing
To be submitted to IOP Publishing for possible indexing by Scopus
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Paper Acceptance
Paper Submission Due June 22, 2020
Extend Final Paper Submission June 22, 2020
2nd Extend Final Paper Submission June 30, 2020
Notification of Paper Acceptance July 06, 2020
Camera Ready Due July 21, 2020
Final Registration Due July 30, 2020
Conference Day August 06-07, 2020
Name of the Bank : Bank Permata
Bank Account Name : Yayasan Bina Sarana Informatika
Account Number : 701 130 197
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APTIKOM Prov. DKI Jakarta
UCIC

Profile Prof. Zainal A. Hasibuan, Ph. D

The Conference speaker was born in Pekanbaru 24 December 1959, he earned his PHD in information storage and Retrieval system at Indiana University. His research interest in Information Retrieval, E-Business, E-Learning, E-government. Information System has have been published at various conferences both international and national, he is also a reviewer of multiple journals, and until now he serves as the chairman of the Association of Computer Science (APTIKOM)

Profile Prof. Dr. rer. Nat Gerhard Wilhelm Weber

The conference speaker was a man born in Westphalia Germany on October 20, 1960, he was a professor of the faculty of management and technology Poznan University of Technology, Poland, he researched in the areas of Financial Mathematics, mathematical programming, Mathematical and Computational Statistics, dynamical systems, discrete tomography, neuroscience, special aspects of discrete mathematics, he is an expert in the field of mathematics and masters several programming languages such as Basic, Fortran and Pascal, he has also published many titles in the field of mathematics as well as being a reviewer in several international journals, he is also active as a speaker at various international conferences.

Profile Prof. Dr Dorien DeTombe

Prof. Dr Dorien DeTombe is the founder and chair of the field Methodology for Societal Complexity. She developed the Compram Methodology for political decision making on complex societal issues like sustainable development, terrorism, credit crisis, climate change and water affairs. The Compram Methodology is advised by the OECD to handle Global Safety. She studied social science and computer science. Her doctorate is in Methodology for Societal Complexity. She spends her main career at Utrecht University and Delft University of Technology in The Netherlands, and is since 2015 connected with Sichuan University, Chengdu, P.R. China. She is a facilitator of many workshops on complexity. She published many books, more than 150 articles. She gives lectures and workshops as Visiting Professor and Conferences all over the world. She organizes yearly conferences and is editor of many journals. She is in the board of many research groups and established a world-wide research network on International Society on Methodology of Societal Complexity.

Profile Prof. Dr. Herman Mawengkang

The Conference speaker was a professor of mathematics. He earned his doctoral degree at the University of New South Wales, School of Mechanical and Industrial Engineering in 1989. His research in mathematics has been widely published nationally and internationally if it is a reviewer from various journals and a speaker at multiple conferences, he is also a lecturer doctoral Mathematics science program at the University of North Sumatera.

PREFACE

Universitas Bina Sarana Informatika held an International Conference on Advance Information Scientific Development (ICAISD 2020) with the theme "Scientific Information for Living Welfare". This activity aims to become a forum for the dissemination of progress and development in the field of Information Technology and Management to increase understanding and use for stakeholders on a national and international scale.

The form of this activity is in the form of scientific seminars consisting of plenary lectures, oral presentations and posters and workshops. The target participants are practitioners in the fields of Applied Science, Management and Artificial Intelligence from academics (lecturers, researchers, students) as well as practitioners and industry both inside and outside.

The expected benefits of the implementation of this international symposium are the holding of an international symposium in the field of information technology and management, the publication of papers presented and selected by the Editorial Board team will be assisted in being published in international journals indexed by scopus, and the increasing number of publications by lecturers and researchers at Universitas Bina Sarana Informatika in international journal indexed Scopus.

The committee congratulates the participation and papers in the ICAISD 2020 Process. The committee would also like to thank all stakeholders who have supported and actively participated in the success of this international seminar.

Jakarta, August 6, 2020
Best Regards,
Conference Chair of ICAISD-2020

Taufik Baidawi, M.Kom

Table of Contents

Speaker Presentation

Integration of Change, Pattern, and Artificial Intelligence: A Scientific Approach Toward Society 5.0

By: Prof. Zainal A. Hasibuan, PhD

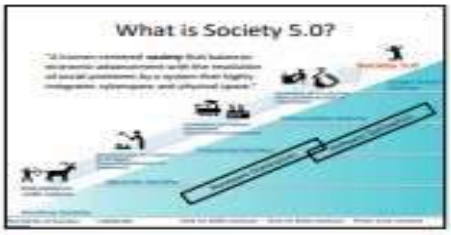
Universitas Dian Nuswantoro

Chairman of APTIKOM

Agenda

- What is Society 5.0?
- What are the Factors Triggering Society 5.0?
- How Science and Technology Apply to Society 5.0?
- How Far Are We from Society 5.0?
- Implementation of Artificial Intelligence in Society 5.0
- Conclusions

What is Society 5.0?



Society 5.0: More "Intimate Collaboration" Between Human and Machine

Digital Transformation Towards Society 5.0

What are the Factors Triggering Society 5.0?

Industrial Revolution 4.0

Big Data

Covid-19 triggers radical change in our daily life

We Live in the Global Village And....We Are Connected!

How Science and Technology Apply to Society 5.0?

Society 5.0 is about the change....from Hunting Society to Information Society and to Society 5.0

Calculus is the mathematical **study** of continuous **change**

Society 5.0 is about a pattern of regularity in the world

A software design pattern is a general, reusable solution to a commonly occurring problem within a given context software design

Society 5.0 is about how a system or a machine that can help human being: Human-Machine Collaboration

Artificial intelligence is the theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

Technologies that Enables Society 5.0

How Far Are We from Society 5.0?

The Inclusiveness of Society 5.0

- Inclusive Society 5.0 is a **society** that over-rides differences of race, gender, class, generation, and geography, and ensures inclusion, equality of opportunity as well as. capability of all members of the **society** to determine an agreed set of social institutions. that govern social interaction.
- Digital transformation towards Society 5.0 will co-exist and collaborative with previous societies.
- The degree to which adaptive to Society depends on the societal maturity level.

Implementation of Artificial Intelligence and Big Data in Society 5.0: The Power of Prediction

Society 5.0 for SDGs

IMPLEMENTATION APRIORI ALGORITHM OF ASSOCIATION RULES MINING TO PREDICT STUDENT'S SUCCESS

INFORMATION DIFFUSION ON ONLINE NEWS PORTAL USING MACHINE LEARNING APPROACH

STUDENTS' ANALITYC MODEL in the CONTEXT of E-LEARNING USING BIG DATA

PROMOTOR:

Implementation of Artificial Intelligence in Society 5.0: The Power of Pattern Design

Architecture of E-Business Platform Based on Organization Characteristics
Case Study: SMEs in Indonesia

Adaptive Platform Based Development of Massive Open Online Course

Promotor and Co-promotor
Prof. Zainal A. Hasibuan, Ph.D
Harry B. Santoso, Ph.D


Agile Crowdsourcing Platform for Indonesian Cultural Heritage
By: Winangsari Pradani
Promotor : Prof. Zainal A. Hasibuan, PhD.


Conclusions


POZNAN UNIVERSITY OF TECHNOLOGY
FACULTY OF ENGINEERING MANAGEMENT
Quality Management in Marketing Communication -
with Contradiction Finding and Classification


POZNAN UNIVERSITY OF TECHNOLOGY
FACULTY OF ENGINEERING MANAGEMENT
ICAISD 2020
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POZNAN UNIVERSITY OF TECHNOLOGY
FACULTY OF ENGINEERING MANAGEMENT
Quality Management in Marketing Communication -
and Contradiction Finding and Classification

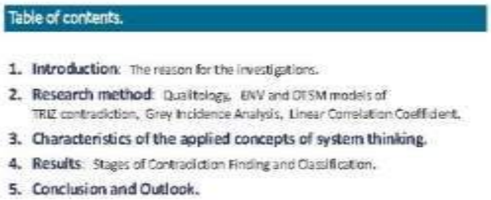
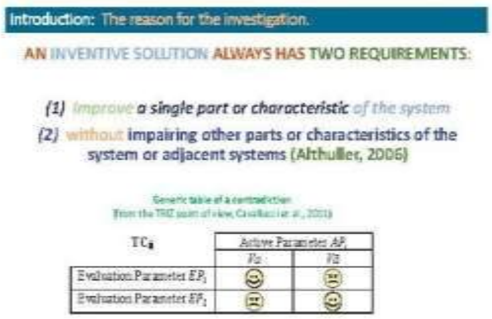
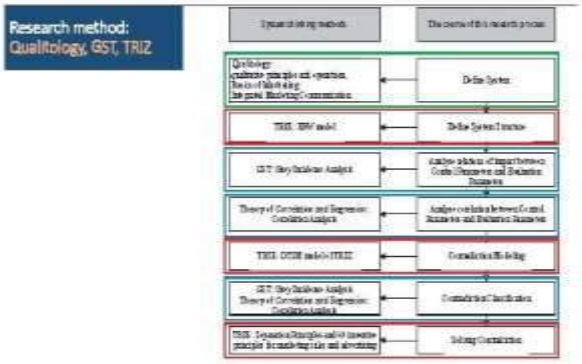


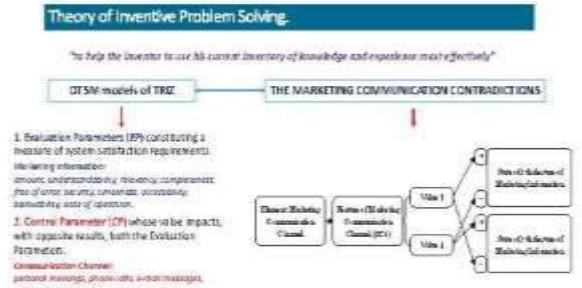
Table of contents.
1. Introduction: The reason for the investigations.
2. Research method: Qualitology, ENV and OTSM models of TRIZ contradiction, Grey Incidence Analysis, Linear Correlation Coefficient.
3. Characteristics of the applied concepts of system thinking.
4. Results: Stages of Contradiction Finding and Classification.
5. Conclusion and Outlook.

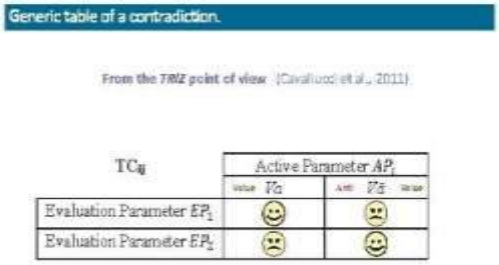

Introduction: The reason for the investigation.
AN INVENTIVE SOLUTION ALWAYS HAS TWO REQUIREMENTS:
(1) improve a single part or characteristic of the system
(2) without impairing other parts or characteristics of the system or adjacent systems (Althuller, 2006)
Generic table of a contradiction
Evaluation Parameter
Evaluation Parameter

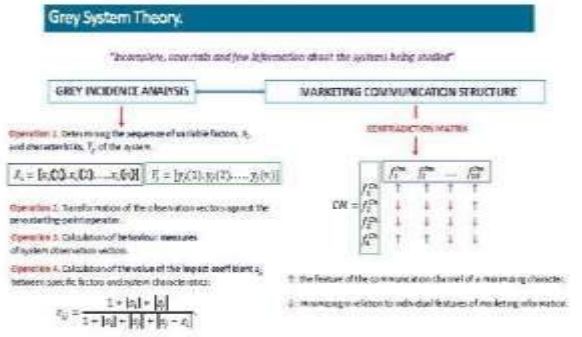

Introduction: The reason for the investigation.
INFORMATION QUALITY IN MARKETING COMMUNICATION:
• recognition of the surrounding market from different perspectives,
• contributes to the synergy effect in shaping the targeted changes of the company and its environment.

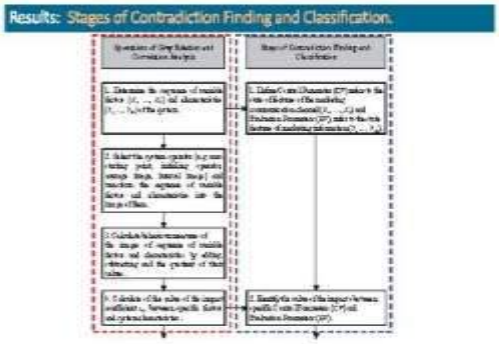

Research method:
Qualitology, GST, TRIZ

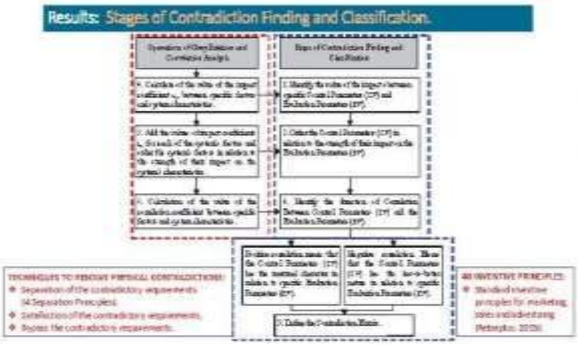

Qualitology.
QUALITATIVE PRINCIPLES
INFORMATION QUALITY IN MARKETING COMMUNICATION

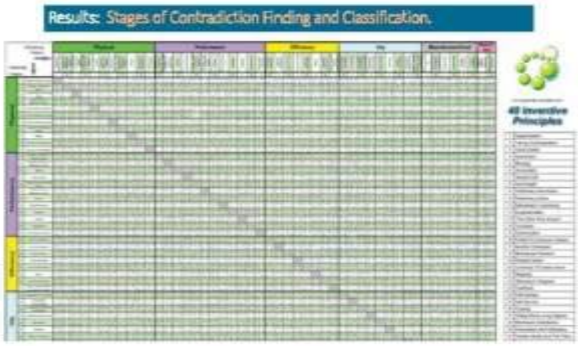

Theory of Inventive Problem Solving.
OTSM-models of TRIZ
THE MARKETING COMMUNICATION CONTRADICTIONS

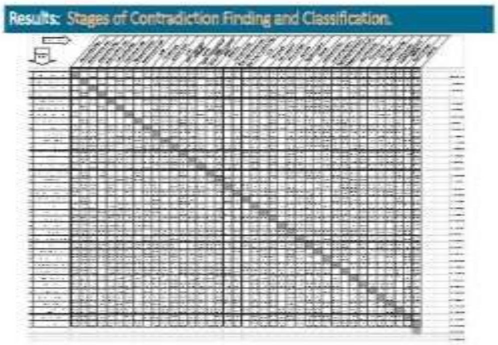

Generic table of a contradiction.
From the TRIZ point of view (Cavalluzzi et al., 2011)
Active Parameter AP_j
Evaluation Parameter EP_1
Evaluation Parameter EP_2

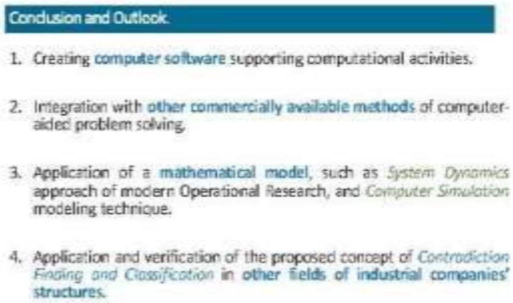

Grey System Theory.
GREY INCIDENCE ANALYSIS
MARKETING COMMUNICATION STRUCTURE


Results: Stages of Contradiction Finding and Classification.


Results: Stages of Contradiction Finding and Classification.


Results: Stages of Contradiction Finding and Classification.
40 Inventive Principles


Results: Stages of Contradiction Finding and Classification.


Conclusion and Outlook.
1. Creating computer software supporting computational activities.
2. Integration with other commercially available methods of computer-aided problem solving.
3. Application of a mathematical model, such as System Dynamics approach of modern Operational Research, and Computer Simulation modeling technique.
4. Application and verification of the proposed concept of Contradiction Finding and Classification in other fields of industrial companies' structures.


Thank you for your attention.
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FB: Willi Weber
Joanna MAJCHRZAK
joanna.majchrzak@put.poznan.pl


References.

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Generic table of a contradiction
from the TRIZ point of view, Cavallucci et al., 2011)

TC_{ij}	Active Parameter AP_i	
	P_{i1}	P_{i2}
Evaluation Parameter EP_j	☹	☺
Evaluation Parameter EP_j	☺	☹

Introduction: The reason for the investigation.

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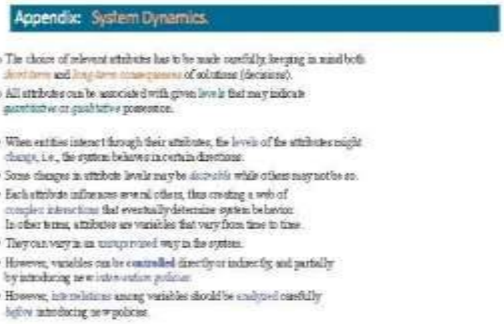
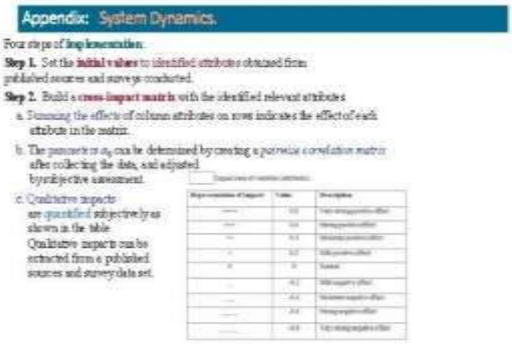
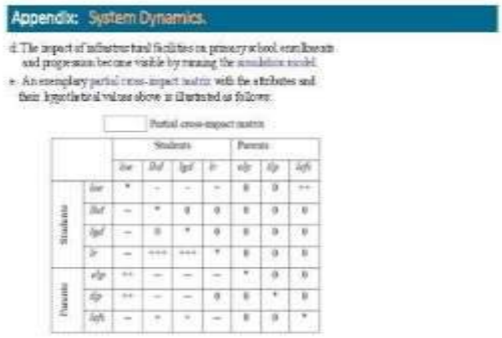
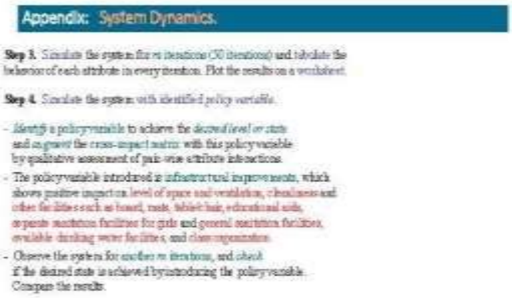
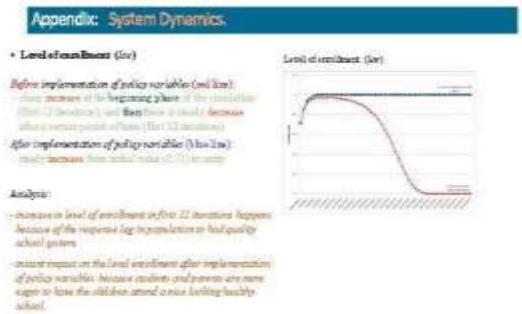

Appendix: System Dynamics.
All attributes can be associated with given levels that may indicate
When entities interact through their attributes, the levels of the attributes might
Some changes in attribute levels may be
Each attribute influences several others, thus creating a web of
In other terms, attributes are variables that vary from time to time.
They can vary in an
However, variables can be controlled directly or indirectly and partially
However,
before introducing new policies.

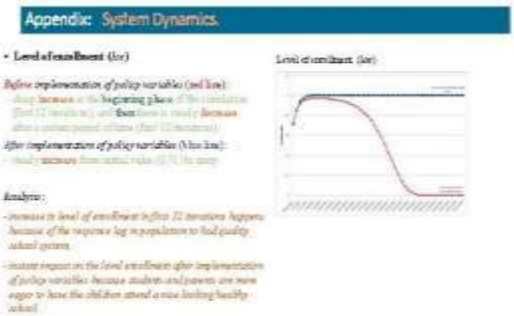

Appendix: System Dynamics.
Four steps of implementation:
Step 1. Set the initial values to identified attributes obtained from published sources and surveys conducted.
Step 2. Build a cross-impact matrix with the identified relevant attributes
a. Summing the effects of column attributes on rows indicates the effect of each attribute in the matrix.
after collecting the data, and adjusted by subjective assessment.
c. Qualitative impacts are quantified subjectively as shown in the table.
Qualitative impacts can be extracted from a published sources and survey data set.


Appendix: System Dynamics.
d. The impact of infrastructural facilities on primary school enrollments and progression become visible by running the simulation model.
e. An exemplary partial cross-impact matrix with the attributes and their hypothetical values above is illustrated as follows:
Partial cross-impact matrix
Students
Parents


Appendix: System Dynamics.
Step 3. Simulate the system for m iterations (30 iterations) and tabulate the behavior of each attribute in every iteration. Plot the results on a worksheet.
Step 4. Simulate the system with identified policy variable.
- Identify a policy variable to achieve the desired level or state and augment the cross-impact matrix with this policy variable by qualitative assessment of pair-wise attribute interactions.
- The policy variable introduced is infrastructural improvements, which shows positive impact on
- Observe the system for another m iterations, and check if the desired state is achieved by introducing the policy variable. Compare the results.


Appendix: System Dynamics.
The cross-impact systems model requires
(through selecting a particular region or state of a developing country)
Data can be obtained from conducting personal surveys and data published from the selected developing country.
The information obtained can be converted into meaningful qualitative and quantitative impact factors after being normalized.
Then, the initial values for the attribute levels can be set accordingly.
Once initial attribute levels are determined from the data and cross-impact parameters are calculated, the model is simulated.
These simulations illustrate the effects of infrastructural facilities on quality of primary education over time.


Appendix: System Dynamics.
Level of enrollment (loe)
Before implementation of policy variables (red line):
After implementation of policy variables (blue line):
Analysis:
Level of enrollment (loe)

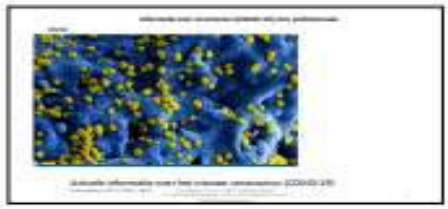

Appendix: System Dynamics

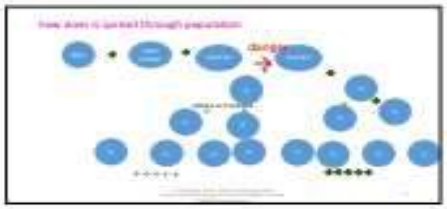

Covid-19 a pandemic that should be handled by the Compram methodology
compram


Covid-19, Corona virus, Sars-Cov-2
the effect of this new pandemic to society
a complex societal problem


easy to contaminate humans
by sneezing and coughing
it causes long infection
Virus


Coronavirus Disease 2019






medical effect on humans
some nothing
some ill
old and weak people die


slowly it became clear
the virus caused a pandemic (spread all over the world)
the virus would kill many people when no adequate measurements were taken


Covid-19 pandemic
a complex societal problem 11 March 2020

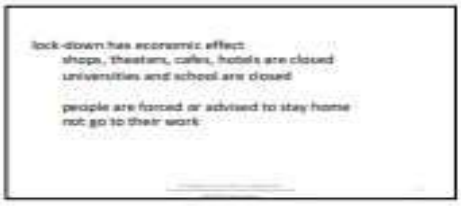

official data are not complete , underscore
because a shortness of tests or reluctance of tests the
data of Covid -19 is not adequate


soon the hospitals where overflown with patients, often old,
obese or young with before not known diseases
many people died
governments panicked:
too less protection material
too less intensive care units available
too less doctors and nurses specialised
terrible views of sorrow on the public television
in The Netherlands:
old people (Alzheimer) isolated but infected by unprotected nurses


soon the treatment of the ill people became a political game
who will be treated who not
over 80/ 70 .....60? year will not be treated


governmental policy
some countries reacted direct adequately to mitigate the contamination
some countries were too late
some countries were reluctant to react properly (UK, USA, Brasil)


Covid-19
government policy
lock-down
Wuhan China after January
Iran Greek February
Italy February/March
France March
Spain March
in other countries the people are advised to stay home

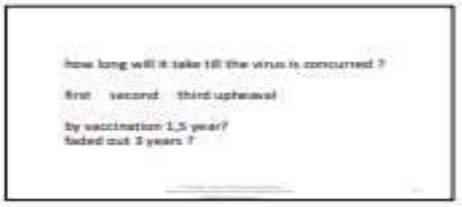

lock-down has economic effect
shops, theaters, cafes, hotels are closed
universities and school are closed
people are forced or advised to stay home
not go to their work


situation at home not always safe for women and children
more abuse is mentioned
mask 19 code word at pharmacy for help


work at home not always possible
in Europe tourism stopped for months
soon Covid-19 became a geopolitical game
and a fight between healthcare and economic interests
loan money


effect on economic
first hardly effect on stock markets till 21 February
after that 5- 10% down
9 March 2020 Shell minus 30 %
a new credit crisis?
due to combination Corona and oil prices down
Brent barrel January 66 $ on 9 March 33$
down in the battle between Russia and OPEC (Arabic) countries
gold price very high- July 2020


economic effect
many (closed) business are subsidised
for how long?
will the money be paid back?
who pays???
KLM
Booking.com


how long will it take till the virus is concurred ?
first second third upheaval
by vaccination 1,5 year?
faded out 3 years ?

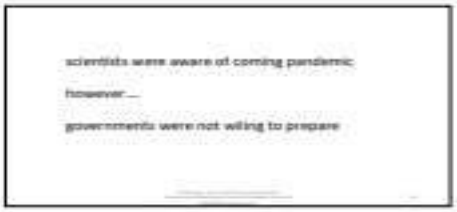

in general
the living world consist of flora and fauna
part of the fauna are animals and human beings
viruses stay on the body active unless heated or outside view, or more days
viruses are in huge quantities and many kinds
humans are vulnerable for viruses that sometimes cause death


viruses there animals
all humans and animals have viruses
domestic viruses of dogs and cats often not
dangerous or contagious for human


wild birds


INFLUENZA


contam
ination


scientists were aware of coming pandemic
however....
governments were not willing to prepare

the animal food markets in South China province Hubei Wuhan
every autumn new flu virus

Vaccination half year
Example
N1H1
Mexican flu

Corona covid-19 is not the first corona virus
Sars 2013 and Mers 2018
they are successfully stopped

in many countries advice boards consisting of medical people with expertise of many subfields of healthcare.

good start, enlarged by experts of other fields such a historians, social scientist and people from law.
using the Compram methodology

Covid-19
Complex societal problem
needed to use the Compram methodology

Why the Compram methodology?

because it analyses carefully the whole problems with all its effects.
not only the economic effect and healthcare effect
also the psychological effect, the human rights effects, the effects on education, the political effects etc

and can give sustainable answers for handling the problem

complex societal problems problems
on the front page of the quality
newspapers

complex societal problems

what is it
what causes it
who is suffering
who has the benefit

who can change it

how can it be changed

policy making
for handling societal complexity
in order to implement changes

theory of Societal Complexity
and the Compram methodology
supports policy making in
handling complex societal problems

Methodology of Societal Complexity
supports decision making for politicians
on local, state and global level
using the Compram Methodology

Definition of Complex Societal Problems (DeTombe 2000) [1]

a complex societal problem is a real life problem, which has a large however often different impact on different groups in the society. The problem has often an impact on all the levels of the society, on micro, meso and macro level.

Often it seems that the problem suddenly 'pops up'. The problem is dynamic, it changes during its development. The future development of the problem is uncertain.

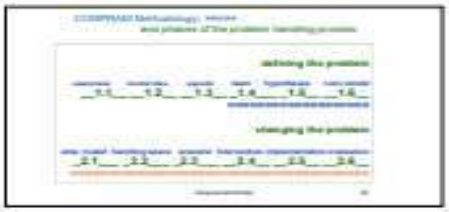
It is often difficult to become aware of the problem and difficult to put it on the political agenda. It is difficult to get grip on the problem and to handle the problem. Only changes are possible, no 'solutions'.

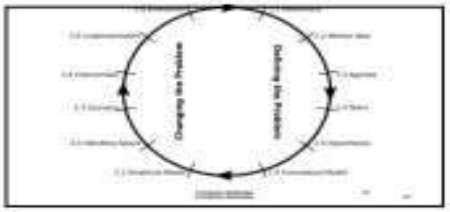

compram

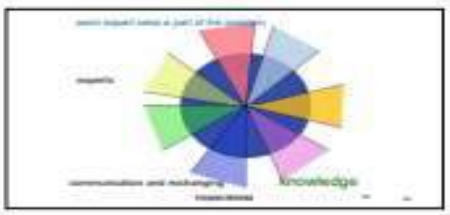

the Compram Methodology


COMPRAM Methodology: 3 basic elements
each complex societal problem has:
knowledge
power
emotion

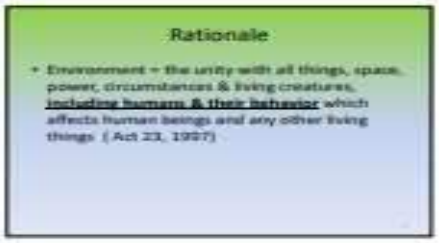

the Compram Methodology
how does it work?

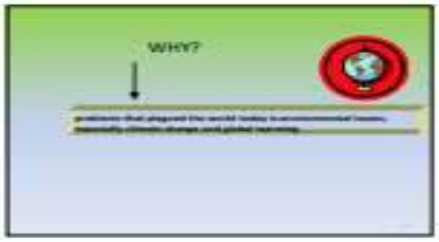



Changing the Problem
Defining the Problem


knowledge


A Markov-based model in managing coordination relationship of school communities to achieve environmental behaviour


Rationale
• Environment = the unity with all things, space, power, circumstances & living creatures, including humans & their behavior which affects human beings and any other living things (Act 23, 1997)


WHY?


Global Challenges


Global Challenges


Global Challenges


Global Challenges


Global Challenges


Global Challenges


households behavior?


Awareness? / Knowledge?


Industries?


Transportation?


WHY
ME?????
...?
WHERE TO???


To conclude
Most of Environmental problems caused by human behavior


Human behavior have great potential
to determine the direction of
sustainable development, therefore we
need to initiate environmental
behavior

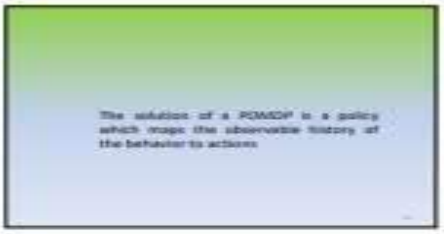

To create Environmental
Behavior

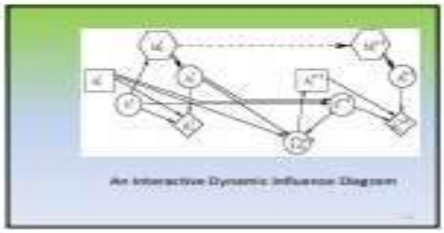

Environmental education


SCHOOL COMMUNITY is a Multi-Agent
System (MAS)


WHY MAS?
Because it is an agent- based model which function to simulate the operation and interaction that happened simultaneously among agents in a complex and dynamic phenomena, thus to make prediction of it.

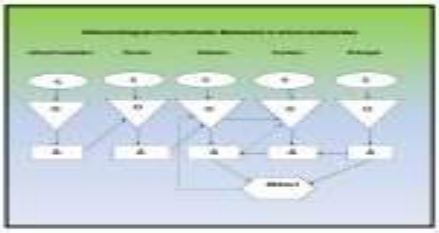

METHOD


The solution of a POMDP is a policy which maps the observable history of the behavior to actions


An Interactive Dynamic Influence Diagram


Application

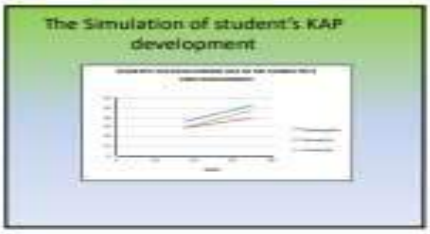

The result from where the data was taken (1st STAGE)
Students' Knowledge K = 37, 03%
Students' Attitude A = 57, 69%
Students' Practice P = 44, 76 %

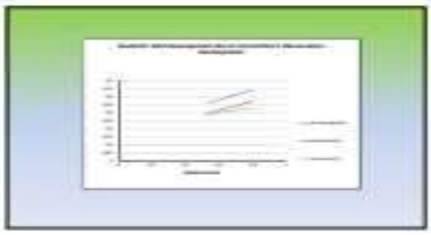


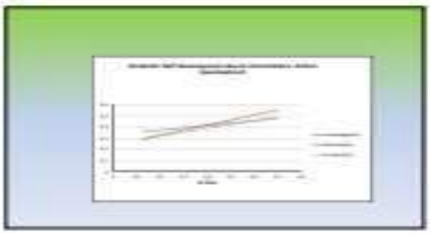

Probabilities Value of School Committee (as an example).
From the diagram we need to determine the conditional probabilities of action with a condition that the observation of committee is done, i.e.,

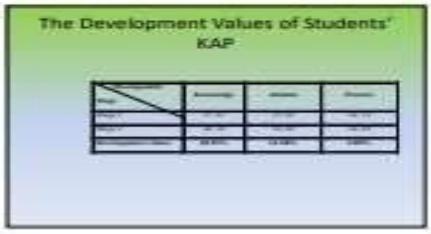

the reward


Transitions function
• KAP TRANSITIONS


The Simulation of student's KAP development






The Development Values of Students' KAP


Conclusion


IDEA


THANK YOU VERY MUCH
Labai ačiū už jūsų malonų dėmesį
TERIMA KASIH

ICAISD 2020

INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION SCIENTIFIC DEVELOPMENT

"Scientific Information For Living Welfare"

Invite Link : https://zoom.us/j/7326877081?pwd=TVFOR1E2YlZEUFR5Q0h5NXlEK1pKQT09
ID Meet : 732 687 7081
Password : ICAISDBEST

JAKARTA, 6 AUGUST 2020

No	Time	Activity	Actor
1	09.00 a.m. to 09.15 a.m.	Registration	Crew (live music)
2	09.15 a.m. to 09.28 a.m.	Opening, Introducing, Present	Mr Agus & Mrs Cicih
3	09.28 a.m. to 09.31 a.m.	Sing Together , The National Anthem Of Indonesia	
4	09.30 a.m. to 09.40 a.m.	Welcome Speech	Dr. Mochammad Wahyudi, MM, M.Kom, M.Pd (Rektor Universitas Bina Sarana Informatika)*
5	09.40 a.m. to 09.55 a.m.	Opening Remark by Head Of LLDIKTI 3 (APTIKOM *)	APTIKOM + OPENING
6	09.55 a.m. to 11.30 a.m.	Seminar & Talkshow Moderator : Mr. Agus Priadi, SE, M.Pd	Speaker 1 : Prof. Ir. Zainal Arifin Hasibuan, MLS., Ph.D (Asosiasi Pendidikan Tingggi Ilmu Komputer (APTIKOM) Indonesia Chairman)
7			Speaker 2 : Prof. Dr. Herman Mawengkang (Universitas Sumatera Utara)
8	11.30 a.m. to 12.00 a.m.	Q&A Session 1	Moderator
9	12.00 a.m. to 1.00 p.m.	BREAK TIME	Mr Agus & Mrs Cicih
10	1:00 p.m. to 3:00 p.m.	PARALLEL SESSION (10 Classroom) Chapter 1	Crew (PIC class room)
11	3:00 p.m. to 3:10 p.m.	BREAK TIME	
12	3:10 p.m. to 4:45 p.m.	Seminar & Talkshow Moderator : Mr. Agus Priadi, SE, M.Pd	Speaker 3 : Prof. Dorien de Tombe (Delft Technical University, Netherland)
13			Speaker 4 : Prof. Gerhard W. Weber (Poznan University of Technology, Poland)
14	4:45 p.m. to 5:15 p.m.	Q&A Session 2	Moderator

ICAISD 2020

INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION SCIENTIFIC DEVELOPMENT

" Scientific Information For Living Welfare "

JAKARTA, 7 AUGUST 2020

No	Time	Activity	Actor
1	08.15 a.m. to 08.30 a.m.	Bumper	Multimedia
2	08.30 a.m. to 10.30 a.m.	PARALLEL SESSION (10 Classroom) Chapter 2	Crew (PIC class room)
3	10.40 a.m. to 10.50 a.m.	Invite participant	Mr Agus & Mrs Cicih
4	10.50 a.m. to 11.10 a.m.	Awarding The Best Paper and The Best Presenter	Mr Agus & Mrs Cicih
5	11.15 a.m. to 11.25 a.m.	Report by ICAISD Committee	Chairman
6	11.25 a.m. to 11.30 a.m.	Closing by ICAISD Committee	Mr Agus & Mrs Cicih

LIST OF SPEAKERS

Room : 1
Category : Applied Science
Moderator : Mr. Jimmi, M.Pd
Invite Link : https://zoom.us/j/8244410030?pwd=QjRTV3RTNWtoM2UzMHM4a0xLOWVaQT09
ID Meet : 824 441 0030
Password : ICAISD01

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	13	Qudsiah Nur Azizah,Taopik Hidayat,Dwiza Riana,Tino Dwiantoro,Suhardoyo, and Saghifa Fitriana	Understanding Impact of M-banking on Individual Performance of the DeLone & McLean Method and TTF Perpective
2	1.15 PM to 1:30 PM	15	Moh. Arie Hasan, Dwiza Riana, Sigit Swasono, Ade Priyatna, Eni Pudjiarti, Lusa Indah Prahartiwi	Identification of Grape Leaf Diseases Using Convolutional Neural Network
3	1:30 PM to 1:45 PM	19	Frieyadie, Adriana Hadi Sukmawati and Nurajijah	Combination of the SAW and TOPSIS Method For Determining The Best Marketplace Recommendations
4	1:45 PM to 2:00 PM	26	Faiza Renaldi, Meryana Putri Ramandhani, Esmeralda Djamal and Irma Santikarama	Integrated Monitoring Platform for Collaborative Youth Communities in Indonesia: A Case of e-Government Implementation for the Rural Millennial
5	2:00 PM to 2:15 PM	28	Normah, Ita Yulianti, Deny Novianti, Monikka Nur Winnarto, Ainun Zumarniansyah and Safitri Linawati	Comparison of Classification C4.5 Algorithms and Na¨ive Bayes Classifier in Determining Merchant Acceptance on Sponsorship Program
6	2:15 PM to 2:30 PM	29	Sari Hartini, Windu Gata, Sigit Kurniawan, Hendra Setiawan and Kadinar Novel	Cosmetics Customer Segmentation and Profile in Indonesia Using Clustering and Classification Algorithm
7	2:30 PM to 2:45 PM	30	Indah Purnamasari, Frisma Handayanna, Ester Arisawati, Linda Sari Dewi, Erene Gernaria Sihombing and Rinawati Rinawati	The determination analysis of telecommunications customers potential cross-selling with classification naive bayes and c4.5

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	33	Tiara Eka Putri, Ridho Taufiq Subagio, Kusnadi and Petrus Sokibi	Classification System Of Toddler Nutrition Status using Naïve Bayes Classifier Based on Z- Score Value and Anthropometry Index
9	8:45 AM to 9:00 AM	34	Doni Andriansyah and Lukman Nulhakim	The Application of Power Business Intelligence in Analyzing the Availability of Rental Units
10	9:00 AM to 9:15 AM	36	Mercurius Broto Legowo, Steph Subanidja and Fangky Antoneus Sorongan	FinTech and Bank: Past, Present, and Future
11	9:15 AM to 9.30 AM	38	Fintri Indriyani, Eni Irfiani, Frans Schaduw, Syaiful Anwar and Rahmat Hidayat	The Determination of Yarn Supplier by Using the Weight Product Method
12	9:30 AM to 9:45 AM	39	Syahriani, Adelia Alviyana and Tri Santoso	Sentiment analysis of facebook comments on indonesian presidential candidates using the na¨ive bayes method
13	9:45 AM to 10:00 AM	40	Wanda Ilham, Tiara Putri, Petrus Sokibi, and Kusnadi	APPLICATION OF FUZZY MULTY ATTRIBUTE DECESION MAKING METHOD IN DECISION MAKING SYSTEM FOR DETERMINING THE PROVISION OF ACHIEVEMENT SCHOLARSHIP IN SMP N 1 SIMPATI
14	10.00 AM to 10:15 AM	41	Rusdiansyah, Mohammad Badrul, Tuslaela, Hendra Supendar, Nining Suharyanti and Agus Junaidi	Expert System in Clustering the Damage of a Motorcycle Matic with the K-Mean Algorithm
15	10:15 AM to 10.30 AM	43	Siti Ernawati, Risa Wati, Nuzuliarini Nuris, Lita Sari Marita and Eka Rini Yulia	Comparison of Naïve Bayes Algorithm with Genetic Algorithm and Particle Swarm Optimization as Feature Selection for Sentiment Analysis Review of Digital Learning Application

LIST OF SPEAKERS

Room : 2
Category : Applied Science
Moderator : Mrs. Unpris Yastanti
Invite Link : https://zoom.us/j/6640421517?pwd=NW5VTzZ3bFFOZC8xMU1pWmdRSlRVUT09
ID Meet : 664 042 1517
Password : ICAISD02

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	45	Dany Pratmanto, Rousyati, Fanny Fatma Wati, Andrian Eko Widodo, Suleman, and Ragil Wijianto	App Review Sentiment Analysis Shopee Application In Google Play Store Using Naive Bayes Algorithm
2	1.15 PM to 1:30 PM	48	Dahlia Sarkawi, Suparman Hi Lawu, Anggi Oktaviani, Agus Priadi and Idah Yuniasih	Method for Calculating Children's Parenting and Self-Concept towards Student's Environmental Behaviour Using Correlational Approach
3	1:30 PM to 1:45 PM	49	Lena Magdalena and Yuni Awalaturrohmah Solihah	Design of IT Governance Evaluation Using COBIT Framework through Capability Maturity in Department of Transportation Cirebon
4	1:45 PM to 2:00 PM	51	Jusuf Fadilah, Anisti, Ita Suryani, Azwar Munanjar and Agus Priadi	Brand Image of Bina Sarana Informatika: The Effect of the Use of "Obama-Like" Endorser in the Obama Version TV Advertisement towards the Brand Image of Bina Sarana Informatika (BSI)
5	2:00 PM to 2:15 PM	52	Faqih Hamami and Iqbal Ahmad Dahlan	The Implementation of Stream Architecture for Handling Big Data Velocity in Social Media
6	2:15 PM to 2:30 PM	56	Kartika Handayani, Eka Herdit Juningsih, Dwiza Riana, Sri Hadianti, Achmad Rifai and Rosi Kusuma Serli	Measuring The Quality of Website Services covid19.kalbarprov.go.id Using The Webqual 4.0 Method
7	2:30 PM to 2:45 PM	57	Fadillah Said, Khabib Astoni, Dwiza Riana and Asri Wahyuni	Analysis of Community Satisfaction Level Against the Ministry of Health's Infection Emerging Websites Using Webqual 4.0

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	58	Dinar Ismunandar, Yanto, Dwiza Riana, Fatmawati, Hylenarti Hertyana and Vito Triantori	User Satisfaction Analysis of Pikobar Covid19 Website Using the Webqual Method
9	8:45 AM to 9:00 AM	59	Fakihotun Titiani, Erni, Dwiza Riana, Cahyani Budihartanti, Syaifur Rahmatullah and Taransa Agasya Tutupoly	Analysis of User Satisfaction on Corona.Jakarta.go.id Website: Use Webqual Method 4.0
10	9:00 AM to 9:15 AM	60	Indah Suryani and Duwi Cahya Putri Buani	Stock price prediction using artificial neural network integrated moving average
11	9:15 AM to 9.30 AM	63	Achmad Fatkharrofiqi, Herman Kuswanto, Taufik Rahman, Sumarna, Felix Wuryo Handono and Hafis Nurdin	Employee attendance application using location based service (lbs) method based on android (Case Study of pt. copyright brainmatics informatics)
12	9:30 AM to 9:45 AM	64	Aliyah Kurniasih, Aloysius Kurniawan Santoso, Dwiza Riana, Abdul Rahman Kadafi, Wulan Dari and Arif Ismail Husin	TAM Method and Acceptance of COVID-19 Website Users in Indonesia
13	9:45 AM to 10:00 AM	66	Wahyu Nugraha, Muhammad Sony Maulana and Agung Sasongko	Clustering Based Undersampling for Handling Class Imbalance in C4.5 Classification Algorithm
14	10.00 AM to 10:15 AM	67	Riska Aryanti, Andi Saryoko, Agus Junaidi, Siti Marlina, Wahyudin, and Lia Nurmalia	Comparing Classification Algorithm With Genetic Algorithm In Public Transport Analysis
15	10:15 AM to 10.30 AM	79	Hardiyan, Eka Wulansari Fridayanthie, Noer Azni Septiani, Asep Sayfulloh, Allifah Kusumaningrum and Wahyudin	Efficiency Measurement of Operations Management of Clean Water Company using DEA

LIST OF SPEAKERS

Room : 3
Category : Applied Science
Moderator : Mr. Ary Iswanto Wibowo
Invite Link : https://zoom.us/j/3749365742?pwd=OXVwdlBiU1gwSUJuZjFneUF3NjgrQT09
ID Meet : 374 936 5742
Password : ICAISD03

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	80	Nurajijah, Fachri Amsury, Irwansyah Saputra, Frieyadie, Daning Nur Sulistyowati and Bakhtiar Rifai	Approval of Sharia Cooperative Customer Financing Using PSO-Based SVM Classification Algorithm
2	1.15 PM to 1:30 PM	83	Hani Harafani, Indah Suryani, Ispandi Perdana and Nur Lutfiyana	Neural Network Parameters Optimization with Generic Algorithm to Improve Liver Disease Estimation
3	1:30 PM to 1:45 PM	84	Imam Amirulloh, Iqbal Dzulfiqar Iskandar, Yanti Apriyani, Ai Illah Warnilah, Dini Silvi Purnia, and Mumun Surahman	Teacher Attendance Monitoring System Teaching with QR-Code and Geo Location using Android Platform
4	1:45 PM to 2:00 PM	85	Bagus Dwi Wicaksono, Dwin Indrawan, Dwiza Riana, Andi Taufik, Yamin Nuryamin and Dian Ambar Wasesha	The Influence of Pikobar Application in Suppressing the Rate of Coronavirus Spread
5	2:00 PM to 2:15 PM	86	Ahmad Nuryanto, Okki Setyawan, Dwiza Riana, Sri Hadianti, Achmad Maezar Bayu Aji and Endang Pujiastuti	Analysis of the AMARI COVID-19 application with the Technology Acceptance Model Method
6	2:15 PM to 2:30 PM	89	Edhi Prayitno, Juarni Siregar, Yumi Novita Dewi, Chaerul Bachri, Luthfi Indriyani and Samsul Ma'Arif	Use Case Points (UCP) with 3 Point in Program Evaluation and Review Technique (PERT) to Estimate Effort Software
7	2:30 PM to 2:45 PM	114	Cicih Nuraeni, Irmawati Carolina, Adi Supriyatna, Wina Widiati and Syamsul Bahri	Mobile-Assisted Language Learning (MALL): Students' Perception and Problems towards Mobile Learning in English Language

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	93	Kurniawati Kurniawati, Muammar Khadapi, Dwiza Riana, Andi Arfian, Eva Rahmawati and Heriyanto Heriyanto	PUBLIC ACCEPTANCE OF PEDULILINDUNGI APPLICATION IN THE ACCELERATION OF CORONA VIRUS (COVID-19) HANDLING
9	8:45 AM to 9:00 AM	94	Eka Rahmawati and Candra Agustina	Optimization of Decision Tree with PSO on Sharia Cooperative Customer Funding
10	9:00 AM to 9:15 AM	100	Andi Saryoko, Refangga Refangga, Riska Aryanti, Haryani Haryani, Sulaeman Hadi Sukmana and Samudi Samudi	Mobile Forensic In Whatsapp Messenger Use Mobiledit Forensics Express And National Institute Of Standards And Technology (NIST)
11	9:15 AM to 9.30 AM	111	Wisti Dwi Septiani, Sri Utami, Octa Pratama Putra, Noer Hikmah, Popon Handayani, dan Narti Narti	Designing of Agricultural Product e-Marketplace by using UCD method
12	9:30 AM to 9:45 AM	112	Wina Yusnaeni, Marlina Marlina, Ratih Yulia Hayuningtyas and Retno Sari	Comparison AHP-MABAC And Waspas Methods For Supplier Recomendations
13	9:45 AM to 10:00 AM	91	Nissa Madaniyah Fadhilah, Siti Fauziah, Dwiza Riana, Andrian Eko Widodo, Agus Yulianto and Besus Maula Sulthon	Influence Of Overload Information About COVID-19 Pandemic On Internet For Psychological Illnesses And Behavioral Intentions To Continue Searching For Information
14	10.00 AM to 10:15 AM	115	Nur Aini Rakhmawati and Hapsari Wulandari	Analysis of Legislative Candidate's Motivation and Target in General Election 2019 Using Author-Topic Model and Node2vec
15	10:15 AM to 10.30 AM	121	Haryani Haryani, Titik Misriati, Rahmat Hidayat, Diah Puspitasari, Dinda Ayu Muthia and Instiyanti Elyana	Information Technology Governance in Al Kautsar Islamic Elementary School Using COBIT 5 Framework

LIST OF SPEAKERS

Room : 4
Category : Applied Science
Moderator : Miss Retno Rahayuningsih
Invite Link : https://zoom.us/j/5633927839?pwd=OFhhVHhoRUkyVHF1Z3YyOGhORmFCZz09
ID Meet : 563 392 7839
Password : ICASID04

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	123	Eko Haryadi, Dewi Yuliandari, Abdussomad Abdussomad, Diah Wijayanti, Mike Amelia, and Syafrianto Syafrianto	Maintaining The Continuity of The Company's Operation using the NIST Framework for Small and Medium Enterprises
2	1.15 PM to 1:30 PM	127	Panny Agustia Rahayuningsih, Reza Maulana, Windi Irmayani, Dedi Saputra and Deasy Purwaningtias	Feature Dependent Na¨ive Bayes For Network Intrusion Detection System
3	1:30 PM to 1:45 PM	146	M Safii, Syahril Efendi, Muhammad Zarlis and Herman Mawengkang	Dynamic Model For Determining Disaster Evacuation Locations With Game Theory
4	1:45 PM to 2:00 PM	148	Dadang Priyanto, Muhammad Zarlis, Herman Mawengkang, Syahril Efendi	ANALYSIS OF SEISMIC HAZARD PREDICTION USING NON PARAMETRIC CONIC MULTIVARIATE ADAPTIVE REGRESSION SPLINES (C-MARS) METHODS
5	2:00 PM to 2:15 PM	149	Finna Windyani, P. H. Gunawan, Dede Tarwidi	Macroscopic Modelling of Pedestrian Flows Based on Conservation Law
6	2:15 PM to 2:30 PM	155	Dinar Ajeng Kristiyanti, Esty Purwaningsih, Ela Nurelasari, Ahmad Al Kaafi, Akhmad Hairul Umam	Implementation of neural network method for air quality forecasting in Jakarta region
7	2:30 PM to 2:45 PM	209	Ai Ilah Warnilah, Dini Silvi Purnia, Miftah Farid Adiwisastra, Herlan Sutisna, Ratningsih and Rian Ardianto	The Implementation of the MFEP (Multi Factor Evaluation Process) Method In Determining the Learning Model

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	168	Miftah Farid Adiwisastra, Yani Sri Mulyani, Tuti Alawiyah, Taufik Wibisono, Iqbal Dzulfikar Iskandar, and Dini Silvi Purnia	Implementation Of The Lab Rotation Model In Blended Learning Based On Student Perspectives
9	8:45 AM to 9:00 AM	169	Angga Ardiansyah, Sopian Aji, Dany Pratmanto, Sandra Jamu Kuryanti, Octa Pratama Putra, Cep Adiwihardja	The Analysis of Digital Provider Sentiment Of 'by.u' On Google Play Which Uses The Support Vector Machine (SVM) Method
10	9:00 AM to 9:15 AM	182	Achmad Baroqah Pohan , Sofian Wira Hadi, Syaifur Rahmatullah , Robi Aziz Zuama , Achmad Rifai , Deni Gunawan	Employee Performance Appraisal Using Decision Support System By AHP and TOPSIS Methods
11	9:15 AM to 9.30 AM	189	Tya Septiani Nurfauzia Koeswara, Yoseph Tajul Arifin, Asriyani Sagianto, Widarti, Sopiyan Dalis, Rizky Ade Safitri	Application of Simple Additive Weighting Method in the Selection of Achievement Employees at PT. Tata Makmur Sejahtera
12	9:30 AM to 9:45 AM	191	Rizal Amegia Saputra, Candra Agustina ,Diah Puspitasari, Kresna Ramanda, Warjiyono, Jamal Maulana Hudin, Lisnawanty, Karlena Indriani	Detecting Alzheimer's Disease by The Decision Tree Methods Based On Particle Swarm Optimization
13	9:45 AM to 10:00 AM	225	Marischa Elveny and Mahyuddin K M Nasution	Similarity Approach Based to Customer Behavior for Trade Business Metrics
14	10.00 AM to 10:15 AM			
15	10:15 AM to 10.30 AM			

LIST OF SPEAKERS

Room : 5
Category : Artifificial Intelligence
Moderator : Mrs. Wiruma Titian Adi
Invite Link : https://zoom.us/j/9321355544?pwd=STV2WmZKUE5NbUFyamdCM0lNRjMrQT09
ID Meet : 932 135 5544
Password : ICAISD05

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	14	Elly Muningsih, Hidayat Muhammad Nur, Fabriyan Fandi Dwi Imaniawan, Saifudin, Vembria Rose Handayani and Feri Endiarto	Comparative Analysis on Dimension Reduction Algorithm of Principal Component Analysis and Singular Value Decomposition for Clustering
2	1.15 PM to 1:30 PM	18	Indah Ariyati, Susy Rosyida, Kresna Ramanda, Verry Riyanto, Siti Faizah and Ridwansyah	Optimization Of The Decision Tree Algorithm Used Particle Swarm Optimization In The Selection Of Digital Payments
3	1:30 PM to 1:45 PM	32	Harsih Rianto, Amrin, Rudianto, Omar Pahlevi, Paramita Kusumawardhani and Seno Sudarmono Hadi	Determining the Eligibility of Providing Motorized Vehicle Loans by Using the Logistic Regression, Naive Bayes and Decission Tree (C4.5)
4	1:45 PM to 2:00 PM	42	Henderi, Ageng Setiani Rafika, Harco Leslie Hendric Spits Warnar and Meldi Anggara Saputra	An application of mask detector for prevent Covid-19 in public services area
5	2:00 PM to 2:15 PM	47	Sri Rahayu, Nurul Qhomariyah, Jajang Jaya Purnama, Dwiza Riana, Yuni Eka Achyani, and Fattya Ariani	Swietenia Mahagoni Wood Defects Segmentation Using YIQ Color Space and Thresholding
6	2:15 PM to 2:30 PM	68	Iqbal Dzulfiqar Iskandar, Noor Cholis Basjaruddin, Deddy Supriadi, Ratningsih, Dini Silvi Purnia and Taufik Wibisono	POPULAR CONTENT PREDICTION BASED ON WEB VISITOR DATA WITH DATA MINING APPROACH
7	2:30 PM to 2:45 PM	69	Irfan Mahendra, Sulistianto Sw, Astriana Mulyani, Agus Wiyatno and Oki Rosanto	Assessing E-Commerce Success from a Millennial Perspective in Indonesia

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	75	Nia Nuraeni, Puji Astuti, Oky Irnawati, Ida Darwati and Danang Dwi Harmoko	High Accuracy in Forex Predictions Using the Neural Network Method Based on Particle Swarm Optimization
9	8:45 AM to 9:00 AM	78	Angge Firizkiansah, Bambang Kriswantara, Dwiza Riana, Aprih Widayanto, Fajar Akbar and Eko Setia Budi	The Influence of "Check The Risk of Contracting Coronavirus" Application Quality from Alodokter on the Benefits Gained by Users, to get COVID-19 Early Detection
10	9:00 AM to 9:15 AM	90	Ranu Agastya Nugraha, Dwi Andriyanto, Dwiza Riana and Siti Nur Khasanah	Analysis of Factors Affecting Quality of corona.jatengprov.go.id Website Towards User Satisfaction using Webqual 4.0 Method
11	9:15 AM to 9.30 AM	96	Hermanto, Antonius Yadi Kuntoro, Taufik Asra, Eri Bayu Pratama, Lasman Effendi and Ridatu Ocanitra	GOJEK AND GRAB USER SENTIMENT ANALYSIS ON GOOGLE PLAY USING NA¨IVE BAYES ALGORITHM AND SUPPORT VECTOR MACHINE BASED SMOTE TECHNIQUE
12	9:30 AM to 9:45 AM	97	Faruq Aziz, Irmawati Irmawati, Dwiza Riana, Joko Dwi Mulyanto, Dede Nurrahman and Muhamad Tabrani	Usability Evaluation of the Website Services Using the WEBUSE Method (A Case Study: covid19.go.id)
13	9:45 AM to 10:00 AM	98	Eni Heni Hermaliani, Laela Kurniawati, Tuti Haryanti, Nisa Mutiah, Aan Kurniawan, dan Bahrun Said Renhoran	Data Mining Technique to Determine the Pattern of Fruits Sales & Supplies Using Apriori Algorithm
14	10.00 AM to 10:15 AM	103	Titin Kristiana, Sukmawati Anggraeni Putri, Nurmalasari Nurmalasari, Rani Irma Handayani, Nita Merlina and Norma Yunita	Association rule implementation using algorithm apriori to analize fishing pattern in Indonesia
15	10:15 AM to 10.30 AM	107	Ilham Kurniawan, Abdussomad Abdussomad, Muhammad Faittullah Akbar, Dede Firmansyah Saepudin, Mochammad Syamsul Azis, dan Muhamad Tabrani	Improving The Effectiveness of Classification Using The Data Level Approach and Feature Selection Techniques in Online Shoppers Purchasing Intention Prediction

LIST OF SPEAKERS

Room : 6
Category : Artifificial Intelligence
Moderator : Miss Dwi Puji Hastuti
Invite Link : https://zoom.us/j/2509617265?pwd=WS95QzRWOG85VGtXMExId2lOcUlHdz09
ID Meet : 250 961 7265
Password :ICAISD06

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	124	Siti Raftiana Putri, Tien F. Kusumasari, and Muharman Lubis	The Effectiveness of Implementing Payment Gateway for Start-up Company for Transaction
2	1.15 PM to 1:30 PM	125	Elin Panca Saputra, Supriatiningsih Supriatiningsih, Indriyanti Indriyanti and Sugiono Sugiono	Prediction of Evaluation Result of E-learning Success Based on Student Activity Logs With Selection of Neural Network Attributes Base on PSO
3	1:30 PM to 1:45 PM	128	Indarti Indarti, Novita Indriyani, Arief Setya Budi, Dewi Laraswati, Wina Yusnaeni and Arif Hidayat	The Classification Of Monster And Williams Pear Varieties Using K-Means Clustering And K-Nearest Neighbor (KNN) Algorithm
4	1:45 PM to 2:00 PM	129	Reza Maulana, Panny Agustia Rahayuningsih, Windi Irmayani, Dedi Saputra and Wanty Eka Jayanti	Improved Accuracy of Sentiment Analysis Movie Review Using Support Vector Machine Based Information Gain
5	2:00 PM to 2:15 PM	130	Siti Masripah, Lila Dini Utami, Hilda Amalia, Dini Nurlaela, Muhamad Ryansyah and Lestari Yusuf	Comparison of Text Mining Classification Algorithms in Interbank Money Transfer Application
6	2:15 PM to 2:30 PM	133	Dedi Saputra, Weiskhy Steven Dharmawan, Mochamad Wahyudi, Windi Irmayani, Juniato Sidauruk and Martias Martias	Performance Comparison and Optimized Algorithm Classification
7	2:30 PM to 2:45 PM	134	Diah Puspitasari, Kresna Ramanda, Adi Supriyatna, Mochamad Wahyudi, Erma Delima Sikumbang and Sulaeman Hadi Sukmana	Comparison of Data Mining Algorithms Using Artificial Neural Networks (ANN) and Naive Bayes for Pretern Birth Prediction

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	135	Diah Puspitasari, Mochamad Wahyudi, Muhammad Rizaldy, Acmad Nurhadi, Kresna Ramanda and Sumanto Sumanto	K-Means Algorithm For Clustering The Location of Accident-Prone on The Highway
9	8:45 AM to 9:00 AM	137	Faqih Hamami, Iqbal Ahmad Dahlan	Implementation Face Recognition Attendance Monitoring System for Lab Surveillance with Hash Encryption
10	9:00 AM to 9:15 AM	143	Hikmatulloh, Dwiza Riana, Jamal Maulana Hudin, Susilawati, Dede Wintana and Sri Hadianti	Identification of monogeneans parasite using gray level co-occurrence matrix and artificial neural network
11	9:15 AM to 9.30 AM	147	Adhelinia Afenika, Putu Harry Gunawan and Dede Tarwidi	Classification of Road Surface Quality Based on SVM Method
12	9:30 AM to 9:45 AM	153	Dwi Andini Putri, Dinar Ajeng Kristiyanti, Elly Indrayuni, Acmad Nurhadi, Denda Rinaldi Hadinata	Comparison of Naive Bayes Algorithm and Support Vector Machine using PSO Feature Selection for Sentiment Analysis on E-Wallet Review
13	9:45 AM to 10:00 AM	156	R Aulianita, LA Utami, N Musyaffa, G Wijaya, A Mukhayaroh, A Yoraeni	Sentiment Analysis Review Of Smartphones With Artificial Intelligent Camera Technology Using Naive Bayes n-gram Character Selection
14	10.00 AM to 10:15 AM	157	Hilda Amalia ,Yunita , Achmad Baroqah Pohan, Ari Puspita, Ade Fitria Lestari	Determination Wart Treatment Method Using Data Mining Technique
15	10:15 AM to 10.30 AM	226	Marischa Elveny and Rahmad Syah	Identification of Diabetic Retinopathy with Retinal Fundus Imagery Using Probabilistic Neural Network

LIST OF SPEAKERS

Room : 7
Category : Artifificial Intelligence
Moderator : Mr. Aloysius Rangga Aditya
Invite Link : https://zoom.us/j/3913226231?pwd=bHJyWEZzbFBaNTNrRCtjU2RBVXhhZz09
ID Meet : 391 322 6231
Password :ICAISD07

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	207	Mahfut Mahfut	Identification and Detection Odontoglossum ringspot virus on Native Orchids Collection of Nurserys in Java, Indonesia
2	1.15 PM to 1:30 PM	171	Haerul Fatah, Recha Abriana Anggraini, Deddy Supriadi, Melisa Winda Pertiwi, Ai Ilah Warnilah and Nurul Ichsan	Data mining for cryptocurrencies price prediction
3	1:30 PM to 1:45 PM	187	Elly Firasari, Nurul Khasanah, Umi Khultsum, Desiana Nur Kholifah, Gema Irhamdhika, Wiwiek Widyastuty	Comparation of K-Nearest Neighbor and Naive Bayes Algorithm for the Classification of the Poor in Recipients of Social Assistance
4	1:45 PM to 2:00 PM	194	Dinar Ajeng Kristiyanti, Dwi Andini Putri, Elly Indrayuni, Achmad Nurhadi, Akhmad Hairul Umam	E-Wallet Sentiment Analysis Using Naïve Bayes and Support Vector Machine Algorithm
5	2:00 PM to 2:15 PM	195	Tika Adilah M, Hendra Supendar, Rahayu Ningsih, Sri Muryani and Kusmayanti Solecha	Sentiment Analysis of Online Transportation Service using the Naïve Bayes Methods
6	2:15 PM to 2:30 PM	196	Rizal Amegia Saputra, Suharyanto Suharyanto, Sri Wasiyanti, Dede Firmansyah Saefudin, Adi Supriyatna and Agung Wibowo	Rice Leaf Disease Image Classifications Using KNN Based On GLCM Feature Extraction
7	2:30 PM to 2:45 PM	200	Tuti Alawiyah, Agung Baitul Hikmah , Wildan Wiguna , Mira Kusmira , Herlan Sutisna , and Bambang Kelana Simpony	Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	205	Husni Faqih, Warjiyono Warjiyono, Fiola Kuhon, Sopian Aji, Angga Ardiansyah and Fandhilah Fandhilah	An Analysis & Measurement of Website Quality Using WebQual 4.0 and Importance Performance Analysis (IPA) Method (A Case Study of Kemiriamba Village Brebes)
9	8:45 AM to 9:00 AM	163	Sriyadi, Maruloh, Mochamad Nandi Susila, Andriansah, Imam Nawawi, Meiva Eka Sri Sulistyawati, Sufi Alawiyah	Motorized Vehicle Security System With Master And Slave Key Models
10	9:00 AM to 9:15 AM	208	Mahfut Mahfut	Identification of Disease and Efforts to Protect Native Orchid Plants Against Bacteria Infection in Liwa Botanical Garden
11	9:15 AM to 9.30 AM	201	Yasinta Indrianti, Sasmoko, Nor Fadila Mohd Amin, Sucianna Ghadari Rabiha, Nugroho Juli Setiadi, Agustinus Dedy Handrimurtjahjo and Muktiono Waspodo	Entrepreneurial Mindfulness Based on Artificial Intelligence
12	9:30 AM to 9:45 AM	211	Hasanul Fahmi, Syahrul Fahri, Jijon Raphita Sagala, Yuda Perwira, Yessy F A Lubis, Nurjamiyah and Mufida Khairani	USING CERTAINTY FACTOR METHOD TO DETERMINE WORK COMMITMENT GENERATION Y
13	9:45 AM to 10:00 AM			
14	10.00 AM to 10:15 AM			
15	10:15 AM to 10.30 AM			

LIST OF SPEAKERS

Room : 8
Category : Applied Science & Artifificial Intelligence
Moderator : Mrs. Yanti Rosalinah
Invite Link : https://zoom.us/j/9196551907?pwd=MnVpbGRCYVB0cDNwTlE0ZS92elZtUT09
ID Meet : 919 655 1907
Password :ICAISD08

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	199	Unifah Rosyidi, Sasmoko, Yasinta Indrianti, Sonya Rapinta Manalu, Ramot Lubis, Jurike Moniaga and Abu Yazid Bin Abu Bakar	Designing Face Recognition Teacher Wellbeing Application that Optimizes Teacher's Quality Work Life
2	1.15 PM to 1:30 PM	145	Paska Marto Hasugian, Harvei Desmon Hutahaean, Bosker Sinaga, Sriadhi and Saronom Silaban	Villages Status Classification Analysis Involving K-Means Algorithm To Support Kementerian Desa Pembangunan Daerah Tertinggal dan Transmigrasi Work Programs
3	1:30 PM to 1:45 PM	212	Satoshi Iwakami, Masajiko Tamega, Masajide Sanada, Michiaki Mohri, Yoshitaka Iwakami, Shuji Jimbo and Masaji Watanabe	Study of underwater topography change with measurement and analysis
4	1:45 PM to 2:00 PM	213	Hengki Sihotang, Syahril Efendi, Elvyawati Zamzami and Herman Mawengkang	Design and Implementation of Rivest Shamir Adleman's (RSA) Cryptography Algorithm in Text File Data Security
5	2:00 PM to 2:15 PM	218	Arman Andrian, Sena Ramadona, Dwiza Riana, Nicodias Palasara, Albert Riyandi and Ibnu Rusdi	User satisfaction of covid19 kota Bogor website using webqual 4.0
6	2:15 PM to 2:30 PM	215	Burcu Gürbüz	Hybrid approximation for solutions of high-order integro-differential equations including variable delay
7	2:30 PM to 2:45 PM	177	Kanis Fatama Ferdushi, Md Kamrul Hossain, Anton Abdulbasah Kamil	Production Risk with Feasible Generalized Least Square

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	216	Husain Husain, Muhammad Zarlis, Herman Mawengkang and Syahril Efendi	CAUSAL LOOP DIAGRAM (CLD) MODEL IN PLANNING A SUSTAINABLE SMART SHARIA TOURISM
9	8:45 AM to 9:00 AM	217	Mochamad Wahyudi, Muhammad Zarlis, Herman Mawengkang and Syahril Efendi	A New Framework of Feature Selection Approach for Sentiment Analysis
10	9:00 AM to 9:15 AM	219	Siti Julianita Siregar, Muhammad Zarlis and Zakarias Situmorang	Application and Manual Encryption Process with The Combination Algorithm of One Time Pad and Vigenere Cipher
11	9:15 AM to 9.30 AM	220	Lise Pujiastuti, Mochamad Wahyudi and Solikhun Solikhun	Analysis of Perceptron Quantum Artificial Neural Networks to Classify the Feasibility of Prospective Debtors
12	9:30 AM to 9:45 AM	224	Herman Mawengkang and Sutarman	Generalized Reduced Gradient Approach for Solving Periodic Heterogeneous Vehicle Routing Problem with Side Constraints
13	9:45 AM to 10:00 AM	228	Sri Melvani Hardi and Farhan Pramuwidyantoro Surbakti	EXPERT SYSTEM FOR DETECTION GLAUCOMA DISEASE USING CERTAINTY FACTOR METHOD
14	10.00 AM to 10:15 AM	229	Sri Hardi and Arie Triwiyono	Expert System for Diagnosing Osteoarthritis with Fuzzy Tsukamoto Method.
15	10:15 AM to 10.30 AM	230	Sri Hardi, Muhammad Zarlis, Syahril Efendi and Maya Silvi Lydia	Taxonomy Genetic Algorithm For Implementation Partially Mapped Crossover In Travelling Salesman Problem

LIST OF SPEAKERS

Room : 9
Category : Management
Moderator : Mr. Sayyid Khairunnas
Invite Link : https://zoom.us/j/9288890197?pwd=MmdUUjhDdy9mWGJWSTF4eThXY1B6QT09
ID Meet : 928 889 0197
Password :ICAISD09

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	20	Andi Martias, Agni Isador Harsapranata, Ahmad Rais Ruli, Rahma Wiyanti and Rahmat Novari	Analysis Of The Role Of Internal Auditors On Control Self Assesment Of Material Planning Strategic Business Unit Engine Maintenance
2	1.15 PM to 1:30 PM	54	Sabil, Suhartono, Slamet Heri Winarno, Octa Pratama Putra and Dwiyatmoko Puji Widodo	The Effect of Work Environment, Competence, and Motivation on Employee's Performance in Electronic Companies in the Industrial District of Bekasi Regency Indonesia
3	1:30 PM to 1:45 PM	55	Arefin Islam Sourav, Ninyikiriza Deborah Lynn and Albertus Joko Santoso	Designing a conceptual framework of a smart city for sustainable development in Bangladesh
4	1:45 PM to 2:00 PM	61	Devita Widyaningtyas Yogyanti, Emmita Devi Hari Putri, Citra Unik Mayasari, Atun Yulianto and M. Fathurrahman Nurul Hakim	Taking the Host Community's Control Back Towards Negative Impact of Voluntourism. Case Study in Japanese Language Course Bunka Kenkyuukai, Yogyakarta Indonesia
5	2:00 PM to 2:15 PM	65	Vera Yanti, Sri Arfani, Eka Dyah Setyaningsih, Slamet Heri Winarno and Nur Hidayati	Competency Development Strategy for MSME Actor in The Use of ICTs in Rural and Urban Areas in An Effort Support Business Sustainability (Case Study of MSMEs in The Regency and City of Bandung Indonesia)
6	2:15 PM to 2:30 PM	70	Wiwik Widiyanti, Vina Islami, Rani, Syahrir and Rosento	OVO E-Wallet as a Platform of Digital Payment in Indonesia: An Empirical Analysis
7	2:30 PM to 2:45 PM	82	Sri Harjunawati, Ida Hendarsih, Syahrial Addin and Amas Sari Marthanti	EFFECT OF INFLATION, BI RATE AND NET EXPORT TO USD CENTRAL EXCHANGE RATE TO RUPIAHS IN BANK INDONESIA FOR 2005-2019

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	102	Lela Nurlaela Wati, Ramdany Ramdany and Momon Momon	Benefits and Costs of Politically Connected Firms, Evidence in Indonesia
9	8:45 AM to 9:00 AM	106	Ani Wijayanti, Amelda Pramezwary, Emmita Devi Hari Putri, Atun Yulianto, Jati Nurcahyo and Erlangga Brahmanto	Shopping Tourism Development Through Top Five Products In Yogyakarta City, Indonesia
10	9:00 AM to 9:15 AM	109	Latifah Latifah, Nurmalasari Nurmalasari, Sri Dewi Ayu Safitri and Taufik Baidawi	The Effect Of Macro Economy On Sukuk Requests In Indonesia
11	9:15 AM to 9.30 AM	113	Kurniawan Prambudi Utomo, Sinta Rukiastiandari, Isyana Emita, Faif Yusuf, Fahmi Kamal and Eneng Iviq Hairo Rahayu	Analysis of Effects on Debt Equity Ratio (DER) and Underwriter Reputation on Underpricing Phenomena in Companies Conducting Initial Public Offering (IPO) on the IDX
12	9:30 AM to 9:45 AM	116	Nurvi Oktiani, Haryani Haryani, Kartika Yuliantari, Taat Kuspriyono, Rani Kurniasari and Jimmi Jimmi	The Effect Promotion E- Commerce Toward Effectiveness Promotion By Using Attention, Interest, Desire and Action (AIDA) Methods For Adpers – Art Community Product
13	9:45 AM to 10:00 AM			
14	10.00 AM to 10:15 AM			
15	10:15 AM to 10.30 AM			

LIST OF SPEAKERS

Room : 10
Category : Management
Moderator : Mrs. Titi Dewi Rohati
Invite Link : https://zoom.us/j/3856170963?pwd=Vm52WW1FRlhUa3dPVzhRRTV4L0F5UT09
ID Meet : 385 617 0963
Password :ICAISD10

(DAY 1) 06 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
1	1:00 PM to 1:15 PM	120	Popon Adawia, Ayu Azizah, Aprilia Puspasari, Dede Mustomi and Asep Asep	The Appropriate Calculation Cost of Goods Manufactured as Pricing Strategy for Small Sized Enterprises (SMEs)
2	1.15 PM to 1:30 PM	138	Diana Tambunan, Sugeng Wahyudi, Harjum Muharam	Merger and Innovation to Improve Organization's Performance in Indonesia to Fight Industrial Revolution 4.0: Case study Merger Bank BTPN
3	1:30 PM to 1:45 PM	154	Ana Ramadhayanti, Pramelani, Devy Sofyanty ,Rini Martiwi	TThe Role of Team Creativity and Risk Management in Supports Startup Business Performance
4	1:45 PM to 2:00 PM	161	S Wardah, Taufik Baidawi	Development of Fuzzy Analytic Hierarchy Process(F-AHP) For The Selection Of Alternative New Product Development Ideas In Coconut Downstream Agroindustry
5	2:00 PM to 2:15 PM	162	Ana Ramadhayanti, Nurhidayati, Imelda Sari and Taat Kuspriyono	ELABORATION FACTORS OF SUCCESS IN THE APPLICATION OF COMMUNITY-BASED SOLID WASTE MANAGEMENT AND COMPOSTING TECHNOLOGY
6	2:15 PM to 2:30 PM	164	A R A Nalendra, R Rahayuningsih, Y Rosalinah, I Subroto , A I Wibowo, F Nelfianti	E-Learning for English for Business-Based Podcast: One of Learning Solutions Amid the Pandemic of COVID-19.
7	2:30 PM to 2:45 PM	174	Celerina Dewi Hartati, Gustini Wijayanti, Hin Goan Gunawan, Yulie Neila Chandra	Chinese Identity in God Temple's Birthday Ceremony as a Form of Social Network

(DAY 2) 07 AUGUST, 2020

No.	Time	Id Easychair	Speakers	The Theme List of Full paper
8	8:30 AM to 8:45 AM	183	Eka Dyah Setyaningsih, Hartanti, Vera Agustina Yanti, Ratiyah, Sumanto	IMPLEMENTATION OF GOVERNMENT REGULATION NO.46 2013 AND PP NO.23 IN 2018 FOR SMALL MEDIUM ENTERPRISE BANDUNG REGENCY (CASE STUDY IN BANDUNG DISTRICT MSME)
9	8:45 AM to 9:00 AM	198	Idah Yuniasih, Slamet Heri Winarno, Ida Zuniarti and Sofyan Marwansyah	The Effect of Price, Product Quality and Customer Service Toward Customer Satisfaction on Online Buying at COVID-19 Pandemic
10	9:00 AM to 9:15 AM	119	Heri Ispriyahadi and Raysa Trierdianto	ANALYSIS OF EFFICIENCY AND CHANGE OF PRODUCTIVITY IN THE INDONESIAN BANKING INDUSTRY USING DATA ENVELOPMENT ANALYSIS (DEA) AND MALMQUIST TOTAL FACTOR PRODUCTIVITY
11	9:15 AM to 9.30 AM	118	Lela Nurlaela Wati, Heri Ispriyahadi, Khoirun Nisa, Mohamad Lutfi and Imam Suprapta	Financial Technology and Financial Inclusion on MSME: Mixed-Method Research Approach
12	9:30 AM to 9:45 AM	142	Diah Pradiatiningtyas, Chriswardana Bayu Dewa, Lina Ayu Safitri and Sri Kiswati	The Effect of Satisfaction and Loyalty Towards Digital Payment System Users Among Generation Z in Yogyakarta Special Region.
13	9:45 AM to 10:00 AM	105	Baiatun Nisa, Sulhizah Wulan Sari and Paramita Kusumawardhani	Improving English Speaking Skill through Slang Words in a Movie: the Practice of Mind-Mapping Strategy
14	10.00 AM to 10:15 AM			
15	10:15 AM to 10.30 AM			

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"INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION SCIENTIFICT DEVELOPMENT (ICAISD)"
AUGUST 6-7, 2020

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- Riska Aryanti
- Rizki Ade Safitri
- Tya Septiani Nurfauzia Koeswara

PAPER ID: 13

Title: Understanding Impact of M-banking on Individual Performance of the DeLone & McLean Method and TTF Perpective
Author: Qudsiah Nur Azizah[1], Taopik Hidayat[2], Dwiza Riana[3], Tino Dwiantoro[4], Suhardoyo[5], Saghifa Fitriana[6]
Email: wiza@nusamandiri.ac.id

Abstract:
Currently the public has a curiosity about e-commerce applications that are growing rapidly, such as Mobile banking (m-banking). The development of m-banking can be seen from user satisfaction, end-user interest and the success of everyone using m-banking. This study adds the Task Technology Fit (TTF) model to the DeLone & McLean model for the purpose of knowing the success of individuals using m-banking. We used 102 respondentto answer all the questions in the questionnaire. The results show that of the 14 hypotheses used there were 8 accepted hypotheses. This shows that in individual achievement, usage and user satisfaction are not important. Users consider the importance of individual performance to simplify the use of TTF. User satisfaction is inuenced by system quality, information quality,and service quality.

PAPER ID: 14

Title: Comparative Analysis on Dimension Reduction Algorithm of Principal Component Analysis and Singular Value Decomposition for Clustering
Author: Elly Muningsih[1], Hidayat Muhammad Nur[2], Fabriyan Fandi Dwi Imaniawan[3], Saifudin[4], Vembria Rose Handayani[5], Feri Endiarto[6]
Email: fabriyan.fbf@nusamandiri.ac.id

Abstract:
Clustering is a method of dividing datasets into several groups that have similarity or the same characteristics. High-dimensional Datasets will inuence the e_ectiveness of the grouping process. This study compares two dimension reduction algorithms, namely Principal Component Analysis (PCA) and Singular Value Decomposition (SVD) using K-Means clustering method to _nd out the best algorithm with the smallest Bouldin Davies Index evaluation. The dataset of this study involved public data from UCIMachine Learning which contains the number of weekly sales of a product. Data processing is performed by comparing the number of clusters from 3 to 10 and the dimension reduction from 2 to 10. From the data processing the RapidMiner tools, application with dimension reduction can provide better results than without dimension reduction. In particular, the PCA algorithm shows better results than the SVD, with which the best number of clusters is 5, and the number of dimensional reductions is 3 with a Bouldin Index of 0.376.

PAPER ID: 15

Title: Identitication of Grape Leaf Diseases Using Convolutional Neural Network
Author: Moh. Arie Hasan[1], Dwiza Riana[2,] Sigit Swasono[3], Ade Priyatna[4], Eni Pudjiarti[5], Lusa Indah Prahartiwi[6]
Email: 14002250@nusamandiri.ac.id

Abstract:
The presence of leaf diseases in grapes can reduce the productivity of grapes and result in losses for farmers. Leaf diseases are mainly caused by bacteria, fungi, virus etc. A proper diagnosis of disease in plants is needed in order to take appropriate control measures. This paper aims to assist in the identi_cation and classi_cation of grape leaf diseases Convolutional Neural Network (CNN). CNN is basically an arti_cial neural network architecture that requires repeated training processes to get good accuracy. CNN consists of 3 stages, namely Data Input, Feature Learning, and Classi_cation. The implementation of CNN in this study uses Keras libraries that use the python programming language. Keras is a framework created to facilitate learning of computers. The CNN

PAPER ID: 18

Title: Optimization Of The Decision Tree Algorithm Used Particle Swarm Optimization In The Selection Of Digital Payments
Author: I Ariyati[1]*, S Rosyida[2], K Ramanda[3], V Riyanto[4], S Faizah[5] and Ridwansyah[6]
Email: indah.ayi@bsi.ac.id

Abstract:
Clustering is a method of dividing datasets into several groups that have similarity or the same characteristics. High-dimensional Datasets will inuence the e_ectiveness of the grouping process. This study compares two dimension reduction algorithms, namely Principal Component Analysis (PCA) and Singular Value Decomposition (SVD) using K-Means clustering method to _nd out the best algorithm with the smallest Bouldin Davies Index evaluation. The dataset of this study involved public data from UCIMachine Learning which contains the number of weekly sales of a product. Data processing is performed by comparing the number of clusters from 3 to 10 and the dimension reduction from 2 to 10. From the data processing the RapidMiner tools, application with dimension reduction can provide better results than without dimension reduction. In particular, the PCA algorithm shows better results than the SVD, with which the best number of clusters is 5, and the number of dimensional reductions is 3 with a Bouldin Index of 0.376.

PAPER ID: 19

Title: Combination of the SAW and TOPSIS Method For Determining The Best Marketplace Recommendations
Author: Frieyadie[1*,] Adriana Hadi Sukmawati[2], Nurajijah [3]
Email: frieyadie@nusamandiri.ac.id

Abstract:
A marketplace is a place where sellers can sell merchandise online without the need to create a website. From the many available marketplaces, it appears that consumers' desires in choosing a marketplace are different. Therefore a decision support system is needed to help resolve this problem. In this study, the author combines two methods, namely Simple Additive Weighting (SAW) and Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS). The SAW method is used to find normalized matrix values, and the TOPSIS method to find

normalized weighted matrices up to ranking. This is because the two methods are simple, easy to understand, efficient, and can measure the relative performance of decision alternatives in a simple mathematical form. The final result of this research is to determine the best alternative of a marketplace with criteria: application appearance, features, interactivity, transaction security, and customer service.

PAPER ID: 20

Title: Analysis Of The Role Of Internal Auditors On Control Self Assesment Of Material Planning Strategic Business Unit Engine Maintenance
Author: Andi Martias[1], Agni Isador Harsapranata[2], Ahmad Rais Ruli[3], Rahma Wiyanti[4], Rahmat Novari[5]
Email: ndi.aim@bsi.ac.id

Abstract:
The Material Planning Unit oversees several Material Planners and is functionally responsible to the General Manager of Engineering and Planning. This unit is responsible for ensuring the management and control of the Engine / APU maintenance process to meet the specied quality and lead time maintenance targets but do not yet have specic and specic risk management related to the business process. In this paper Control Self Assessment will be presented to identify risks and controls that exist in the material planning unit facilitated by the Internal Auditor. Then the risk management application will be analyzed so that the process objectives can be achieved ectively and eciently with the Control Self Assessment (CSA) approach. Control Self Assessment (CSA) is an assessment of the internal control of a work unit that is carried out by the management and sta_ themselves in the work unit. Assessment of internal control is carried out collaboratively in a workshop. The purpose of the implementation is for knowledge of the process, problems, and the potential for solving the solution better than external experts such as Internal Auditors and external auditors. This study uses observational data conducted at the time of the assessment audit. Based on the analysis and discussion of data, there are several things that can be concluded 1). Internal Auditors have an important role in facilitating the control self assessment of the business process planning material unit, 2) the analysis of the control self assessment found that the material planning unit has risks that are divided into risk response share and risk response reduce.

PAPER ID: 21

Title: Effects of developing e-business adoption models in organizational contexts on the TAM model among SMEs: pretest model
Author: Asrul Sani[1] , JF Andry[2] , Ninuk Wiliani[3] , A Budiyantara[4]
Email: asrulsani@kampuswiduri.ac.id

Abstract:
Model development is a step that can be implemented and applied to several types of SMEs. One of them is developing a model by combining and integrating a pre-existing model, the e-business adoption model with the TAM (Technology Acceptance Model) model. The development of this model is done by using the logic of the IPO (input-process-output) and the

causal model by combining, adopting, and adapting the previous model. The questionnaire uses a Likert scale with 5 Likert scales. The influence of the path formed is composed of 12 links and produces seven variables. The formed variables are developed into 35 indicators, where one variable forms five indicators. The results of the validity and reliability tests showed positive results with two indicators, namely FC3 and AD2, with values below a predetermined threshold of 0.7. The two indicators are not used again at the time of further testing. Based on this, this model is worthy of consideration for testing the inner model, so that it can provide a further picture for the development of the model.

PAPER ID: 26

Title: Integrated Monitoring Platform for Collaborative Youth Communities in Indonesia: A Case of e-Government Implementation for the Rural Millennial
Author: F Renaldi[1], M P Ramandhani[2], E C Djamal[3] and I Santikarama[4]
Email: aiza.renaldi@unjani.ac.id,

Abstract:
Electronic monitoring systems (e-Monitoring) is the term used for applying technology to a reporting system, used as a medium of supervising for various activities. One of the areas that are prone to chaotic problems thus needs monitoring, is the youth community. While youth empowerment promised high result for the society, it lacks control can also create all sorts of issues. Although there have been many studies dealing with the use of technology in youth communities, none have intensely discussed sharing information between each youth communities, especially those villages youth communities that connect through one sub-district youth community. We consider this as an essential issue since those youth communities are adjacent to one another; hence, a repetition of the program would be an ineffective use of budgets. Upon the implementation of the system, we conducted a user acceptance test. The test was made with 57 test scenarios for five types of users with an acceptance rate of 82,81%. Attaching this system into another e-Government system such as the municipal systems or the banking systems should be a promising future work to be done.

PAPER ID: 28

Title: Comparison of Classification C4.5 Algorithms and Naive Bayes Classifier in Determining Merchant Acceptance on Sponsorship Program
Author: Normah[1], Ita Yulianti[2], Deny Novianti[3], Monikka Nur Winnarto[4],
Ainun Zumarniansyah[5], Safitri Linawati[6]
Email: normah.nor@nusamandiri.ac.id

Abstract:
The large number of merchants that make sponsorship held by the Bank reaches thousands, data mining is used to classifying thousands of data. Naive Bayes algorithm and C 4.5 are classification algorithms in data mining. The classification results are used as determinant where the merchant deserves to receive the sponsorship program, which potentially provides

the source of funds and increase the brand awareness of the company by looking at the performance, transaction amount, total nominal, average daily transaction, average transaction nominal. Comparison results show that The C 4.5 algorithm is the best model for handling case of Merchant eligibility in the Sponsorship Program. This can be proved by looking at the level of accuracy generated on the testing and validation process of the model. Both models have the same AUC value but the C 4.5 algorithm produces a superior accuracy value with a diference of 0.45% compared to Naive Bayes.

PAPER ID: 29

Title: Cosmetics Customer Segmentation and Profile in Indonesia Using Clustering and Classification Algorithm
Author: Sari Hartini[1], Windu Gata[2,] Sigit Kurniawan[3], Hendra Setiawan[4] and Kadinar Novel[5]
Email: sari.shi@nusamandiri.ac.id

Abstract
The cosmetics business competition in Indonesia is currently increasing so rapidly, cosmetics customers have spread to various brands, and according to taste. The customer for the company is an asset that is very important for business continuity, so that good customer management can increase company revenue. However, it is not easy to manage customers if they cannot read the characteristics of customers, to carry out appropriate business strategies. So that requires a customer analysis method that can provide recommendations for the company. RFM is one of the most widely used analytical methods for analyzing customers through segmentation and pro_ling of customers. In addition to segmenting, the customer profile is also a very important factor in analyzing customers, ALC is a form of a customer profile that can be used. RFM + ALC method is not easy to do with very large customer history data, so data mining is needed to help conduct the RFM + ALC analysis. Data mining methods using the clustering function with K-Means and the use of the Elbow method to get the most optimal amount of K in the clustering process can be a model used to segment with RFM, as well as the Naive Bayes and Decision Tree classi_cation methods to determine ALC profile factors the most inuential customer. The results of clustering modeling carried out produce two dominant customer segments. While the Naive Bayes classification model of the ALC factor can provide recommendations for the most inuential customer profiles, with the highest level of accuracy with an accuracy value of 65.87% when compared to the Decision Tree.

PAPER ID: 30

Title: The Determination Analysis Of Telecommunications Customers Potential Cross-Selling With Classification Naive Bayes And C4.5
Author: I Purnamasari[1], F Handayanna[2,] E Arisawati[3], LS Dewi[4], E G Sihombing[5], Rinawati[6]
Email: indah.ihi@nusamandiri.ac.id*,
Abstract:
Every company has various marketing strategies. Marketing strategies are overed to sell the company's products to bene_t if the company introduces new products. However, too many offers to customers that are not true, will only make marketing inefcient and inefective. Data mining as a way to and patterns and relationships in data can be used to make valid predictions.

To simplify the marketing strategy of PT. TELKOM then classifiees the data that already exists in PT. TELKOM Jakarta. Telkom customers have the potential to become customers of new Indihome products, so marketing is carried out by PT. TELKOM has become more efective and efcient. By using data mining classifcation methods, namely the Naive Bayes Classiffer algorithm and the C4.5 algorithm, patterns and relationships are obtained to simplify the marketing strategy of PT. TELKOM where in previous research, the results of classi_cation of data mining research models with the Naive Bayes Classiffer algorithm have an accuracy value of 85.08% and AUC 0.841 while in this study the C4.5 algorithm has an accuracy value of 88.61% and AUC 0.870. C4.5 is a model with good accuracy for customer classifcation data that has the potential for more efective and efcient in cross-selling marketing strategy.

PAPER ID: 32

Title: Determining the Eligibility of Providing Motorized Vehicle Loans by Using the Logistic Regression, Naive Bayes and Decission Tree (C4.5)
Author: Harsih Rianto[1], Amrin[2], Rudianto[3], Omar Pahlevi[4], Paramita Kusumawardhani[5], and Seno Sudarmono Hadi[6]
Email: arsih.hhr@bsi.ac.id

Abstract:
Evaluating in determining the eligibility of giving credit is very important. Errors in providing credit worthiness assessments can result a bad credit risk. The problem that often occurs is not the application of the system by financial parties but more on HR when making predictions about the determination of consumer credit worthiness. Research in the field of computers has been done to reduce credit risk resulting in losses to the company. In this research a comparison of Logistic Regression (LR), Naive Bayes (NB) and Decision Tree (C4.5) algorithms is performed to predict the feasibility of granting credit. In order to produce a prediction of the feasibility of granting credit to new consumers, credit data used by the company is used. The data used in this study consists of 481 consumer records that have been classified as consumers with current credit and bad credit. After testing using the same dataset on the three algorithms by comparing the AUC and Confusion Matrix values, it was found that the appropriate algorithm to be applied to the credit worthiness dataset was Logistic Regression with an Area Under Curve (AUC) value of 0.972 and Accuracy or Confusion Matrix of 93.14%. As for the Decision Tree Algorithm (C4.5) from the test results, the AUC value is 0.926 and the Accuracy is 90.85% and the Algortima Naive Bayes AUC value is 0.905 and the Accuracy is 82.75%.

PAPER ID: 33

Title: Classification System Of Toddler Nutrition Status using Naïve Bayes Classifier Based on Z- Score Value and Anthropometry Index
Author: Tiara Eka Putri[1], Ridho Taufiq Subagio[2], Kusnadi[3], Petrus Sobiki[4]
Email: tiara.ekaputri@cic.ac.id

Abstract:
The system of nutritional status assessment for a toddler is crucial to monitor the growth of a toddler. This present study was carried out to build a classification system for determining the

assessment of toddler nutritional status using naive bayes classifier based on value the z-score and index of Anthropometry. The data was used to perform classification include gender, age, height and weight. The data was calculated using the z-score to get nutritional status based on anthropometric indices-weight-for-age, height-for-age, weight-for-height for classified use *Naive Bayes Classifier*. This study used 225 data of toddlers. Testing system used 55 data as training and 175 data as testing with 100% accuracy. The results of this study was a system that could be used to perform classification of nutritional status based on a combination of three anthropometric indices using the *Naive Bayes Classifier*. *Naive Bayes Classifier* performed classification interpretation of nutritional toddler consisting of malnutrition, normal and over-nutrition. This study showed that the classification of nutritional status was on 175 data generating the highest percentage was malnutrition of 44.58%

PAPER ID: 34

Title: The Application of Power Business Intelligence in Analyzing the Availability of Rental Units
Author: D Andriansyah[1], L Nulhakim[2]
Email: doni.dad@nusamandiri.ac.id

Abstract:
The availability of rental units in the _eld of vehicle rental services is the most important thing that must be given special attention by company management in order to provide good service to customers related to unit information. Sometimes unit information available in the field is diferent from what is recorded in the system, resulting in misinformation. For example, a unit that is supposed to be ready for rental, but in the system status the unit has not changed from its last status which causes the unit cannot be ordered by the customer. Errors are still found in the recording of repair units so that it needs to be adjusted to the status of the unit so that the unit can be rented immediately. Besides the lack of supervision of employees who record or update the status of the unit in the system makes the data pull system is not the same as the existing manual data. To reduce these errors, management requests that information on the availability of units be displayed in the form of a dashboard so that they can display the status of units from various categories simultaneously. This study uses literature study and experimental methods which consist of four stages, namely collecting data, preprocessing data, visualizing, and analyzing data. The purpose of this research is to build a dashboard using Power Business Intelligence (BI) that can display rental unit availability information from various categories based on certain parameters.

PAPER ID: 36

Title: FinTech and Bank: Past, Present, and Future
Author: Mercurius Broto Legowo[1,*,] Steph Subanidja[2], Fangky Antoneus Sorongan[3]
Email: mercurius@perbanas.id

Abstract:
Financial Technology has long been applied to the financial and banking sectors until the emergence of financial technology innovation called FinTech. Referring to the evolution of

FinTech until now, FinTech influences the Bank's activities from the past, present, and future. Based on these facts, this research aims to present a descriptive analysis of FinTech and Bank in the past, present, and future, especially in Indonesia as a case study. This study uses a descriptive analysis research method and using qualitative method approaches. This descriptive analysis is carried out by critically reviewing various relevant scientific journals, the facts of the FinTech phenomenon in Indonesia, and documentation papers from banking institutions. The results of this analysis reveal what happened to FinTech and the Bank in the past, present, and future. The contributions from this study can provide insight and understanding related to FinTech and banks in the past, present, and future more in-depth.

PAPER ID: 38

Title: The Determination of Yarn Supplier by Using the Weight Product Method
Author: Fintri Indriyani[*1], Eni Irfiani[2], Frans Edward Schaduw[3], Syaiful Anwar [4], Rahmat Hidayat [5]
Email: fintri.fni@bsi.ac.id

Abstract:
The Upstream Supply Chain Management is the initial component of the supply chain where the company gets raw materials from suppliers for the production process. This process is very important in the sustainability of a company's production. The obstacle experienced at this stage is how the company decides which suppliers to choose from the many suppliers who want to o↵er their products. Also, it is experienced by PT. Mayer Indah Indonesia, which currently has 14 prospective suppliers, each of which has a di↵erent weight based on the assessment criteria of the company. The purpose of this study is to assist companies in making decisions to determine the best suppliers by using the Weight Product (WP) method, while the selection criteria are based on price, quality and the delivery accuracy. The results of the study can be implemented by the company to determine the right supplier in accordance with the criteria that have been required.

PAPER ID: 39

Title: Sentiment Analysis Of Facebook Comments On Indonesian Presidential Candidates Using The Naive Bayes Method
Author: Syahriani[1], A A Yana[2], T Santoso[3]
Email: syahriani.yii@nusamandiri.ac.id

Abstract:
Sentiment analysis is a very interesting research object to study. Sentiment analysis it self is one branch of textmining whose research focuses on the opinion of a text document. In this study, the author examines the sentiment analysis of facebook commentary of 2 Indonesian presidential real candidates in the 2014. Henceforth in this study, the two candidates are referred to as Presidential Candidate 1 and Presidential Candidate 2, where the numbering sequence is adjusted to the numbering of real election data of president in Indonesia. Here the author chooses to use Facebook comment data on several statuses posted on the 2 official accounts of

the Indonesian presidential candidates, because Facebook is a social media that is widely used by Indonesians, it is evident that Facebook's social media ranks 3rd in Indonesia. In the process of classifying this text using the Naive Bayes method because this method is very simple, has good performance in many domains and this method is very simple. But the Naive Bayes method itself, has the disadvantage of being very sensitive to too many features, which can lead to low classification accuracy. To overcome the problems that exist in the Naive Bayes method, this study uses a combination of feature selection methods, namely information gain and genetic algorithm, the two additional methods serve to improve the accuracy in Naive Bayes classifier. In addition, in this study the author uses smile-forming character conversion, pre-processing of documents such as transform case, tokenization, Indonesian stopwords, Stemming, Token weighting, then classification and confusion matrix testing. This research produces a positive or negative text classification from Facebook comments. Then the measurement is based on the accuracy of Naivve Bayes before and after the addition of the feature selection method. The evaluation process uses 10 fold cross validation. From the results of the implementation and testing, the Naive Bayes method with feature selection has an accuracy level of sentiment classification of 83.67% from the previous results of 60.00% here the researcher also displays the ROC curve.

PAPER ID: 40

Title: Application Of Fuzzy Multy Attribute Decision-Making Method In Decision-Making System For Determining The Provision Of Achievement Scholarship In Smp N 1 Simpati
Author: Wanda ilham[1], Tiara Eka Putri[2], Petrus Sokibi[3], Kusnadi[4]
Email: wandailham@cic.ac.id

Abstract:
This study aims to predict students who are entitled to receive scholarships, the results of this study can be used to accept decisions for scholarship recipients by looking at the report cards, the method used in this study uses the FMADM method, in predicting the results obtained, receiving scholarships by looking at several suggestions such as average grades, Parents 'income, siblings, parents' answers. The results of FMADM calculations have actual taking values, so these values can be used to make decisions as to who is eligible to receive a scholarship.

PAPER ID: 41

Title: Expert System in Clustering the Damage of a Motorcycle Matic with the K-Means Algorithm
Author: Rusdiansyah[1], Mohammad Badrul[2], Tuslaela[3], Hendra Supendar[4], Nining Suharyanti5, Agus Junaidi6
Email: rusdiansyah.rds@bsi.ac.id

Abstract:
Research on Expert Systems to Diagnose Matic Motorcycle Engine Damage by applying Algortima K-means. Research to detect damage to an automatic motorcycle by observing the symptoms of an automatic motorcycle. This study aims to help Matic Motorcycle users to end

out about damage to the automatic motorcycle based on the results of the application of the K-Means algorithm without having to meet with experts directly. Research by applying Algortima k-Means by forming groupings based on electrical damage, compression and engine performance, continuous variable transmission timing and automatic sensors so that the damage can be grouped. The results of the expert system research with the K-Means Algorithm can help matic motorcycle users to _nd out the type of damage based on the grouping that has been determined by the K-Means algorithm.

PAPER ID: 42

Title: An Application of Mask Detector For Prevent Covid-19 in Public Services Area
Author: Henderi[1], Ageng Setiani Rafika[2], Harco Leslie Hendric Spits Warnar[3], and Meldi Anggara Saputra[4]
Email: henderi@raharja.info

Abstract:
Coronavirus disease (COVID-19) that has entered Indonesia made the government impose large-scale social restrictions to reduce the spread of the coronavirus. As the increase in patients confirmed positive, the government continues to appeal and ask the Indonesian to use masks. Whether it is a healthy people or those who are sick. This appeal is in line with the recommendations of theWorld Health Organization (WHO) in preventing the spread of COVID- 19. Therefore it is necessary to develop tools for monitor people who have not used masks in public service areas in real-time. We develop an application of mask detection using a camera that functions as photo and video input and connected to Speed Maix Bit microprocessor to process data and display it to the LCD. We purposed the tools to solve the problems regarding people who were not used masks or not immediately to minimize the spread of COVID-19. Our final experiment demonstrates that the application highly detects people using masks or not in the public area. This study contributed to the conception, design system, and rules-based for application of mask detector to prevent Covid-19.

PAPER ID: 43

Title: Comparison of Naive Bayes Algorithm with Genetic Algorithm and Particle Swarm Optimization as Feature Selection for Sentiment Analysis Review of Digital Learning Application
Author: Siti Ernawati[1], Risa Wati[2], Nuzuliarini Nuris[3], Lita Sari Marita[4], Eka Rini Yulia[5]
Email: siti.ste@nusamandiri.ac.id

Abstract:
The problem examined in this study is about the user's trust in using digital learning applications that are downloaded on playstore. Many reviews are given by the public about the application that has been downloaded on playstore. This review is very inuential on their trust in using the application. The purpose of this study is to classify data according to labels and _nd out the best choice between the classi_cation method and the proposed selection feature as a consideration in determining the use of digital learning applications.This study compares the classi_cation method, the Naive Bayes algorithm and the genetic algorithm (GA) as feature selection with

the Naive Bayes algorithm classi_cation method and the particle swarm optimization (PSO) as feature selection to categorize the reviews in the playstore. The experimental results show that the Naive Bayes algorithm and PSO as feature selection is the best model between the two models proposed in this study. Reviews can be classified into positive and negative labels well. The accuracy is 98.00%. The results of the classification are expected to help in making decisions when going to use digital learning application.

PAPER ID: 45

Title: App Review Sentiment Analysis Shopee Application In Google Play Store Using Naive Bayes Algorithm
Author: Dany Pratmanto[1], Rousyati Rousyati[2], Fanny Fatma Wati[3], Andrian Eko Widodo[4], Suleman Suleman[5], Ragil Wijianto[6]
Email: dany.dto@nusamandiri.ac.id

Abstract:
An online marketplace site is a shopping place that is currently popular with the community because it o_ers a variety of convenience and one of the marketplace apps is Shopee. Some people are satis_ed with the service provided by the Shopee app. But unisex some people who give complaints about this application. User-provided response to Shopee app in the Comments field of Shopee Google Play Store can be analyzed for negative and positive sentiments. This research aims to assist Shopee's management of the positive or negative opinions of application users and can provide empirical evidence for related theories so that it can be used as a donation of thought for the development of theories Next. With the number of reviews shown, you need an analysis that can classify these reviews into positive or negative classes. The method used for the sentiment analysis of Shopee app reviews is the Naive Bayes algorithm obtaining an accuracy yield of 96,667%

PAPER ID: 46

Title: Performance numerical method half-sweep preconditioned gauss-seidel for solving fractional diffusion equatio
Author: A. Sunarto[1] and J. Sulaiman[2]
Email: dany.dto@nusamandiri.ac.id

Abstract:
The main purpose, we derive a finite difference approximation equation from the discretization of the one-dimensional linear space-fractional diffusion equations by using the space fractional derivative of Caputo's. The linear system will be generated by the Caputo's finite difference approximation equation.The resulting linear system was then resolved using Half-Sweep Preconditioned Gauss-Seidel (HSPGS) iterative method, which compares its effectiveness with the existing Preconditioned Gauss-Seidel (PGS) or call named (Full-Sweep Preconditioned Gauss-Seidel (FSPGS)) and Gauss-Seidel (HSPGS) methods. Two examples of the issue are provided in order to check the performance efficacy of the proposed approach. The findings of this study show that the proposed iterative method is superior to FSPGS and GS.

PAPER ID: 47

Title: Swietenia Mahagoni Wood Defects Segmentation Using YIQ Color Space and Thresholding

Author: Sri Rahayu[1], Nurul Qhomariyah[2], Jajang Jaya Purnama[3] , Dwiza Riana[4,] Yuni Eka Achyani[5], Fattya Ariani[6]
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Abstract:
The biggest income from Southeast Asian countries came from timber production export activities. The potential for timber exports in Indonesia continued to increase every year. This skyrocketing potential needed to be improved by maintaining quality so that trust and good cooperation continued to be established. The quality of wood has closely related to wood defects, the faster detection of wood defects would be the faster also determines the quality of wood. Current technology has being developing rapidly to help productive human activities, image processing has being a breakthrough to be able to detect wood defects. This study aims to detect wood defects by segmenting Swietenia Mahagoni wood images by using the YIQ color space and Thresholding has resulted in a fairly good segmentation that is successful in segmenting the types of bark grown wood defects on bontos and defects in healthy knot on the body of wood with each percentage of 83.3%.

PAPER ID: 48

Title: Method for Calculating Children's Parenting and Self-Concept towards Student's Environmental Behaviour Using Correlational Approach

Author: Dahlia Sarkawi[1], Suparman Hi Lawu[2], Anggi Oktaviani[3], Agus Priadi[4], Idah Yuniasih[5]
Email: agus.agp@bsi.ac.id

Abstract:
The purpose of this study is to _nd the correlation among three variables namely children's parenting and self-concept to increase students' environmental behaviour on college students of Office Administration and Business Administration of Universitas Bina Sarana Informatika in Central Jakarta. Research and Development is chosen by involving 120 college students. The data were collected through participant observation using questionnaires. The data searched by the researcher using correlational approach with survey technique. The research findings showed that (1) the correlation between children's parenting and students' environment behaviour is positive and signi_cant with the result of correlation is 0,327, (2) the correlation between self-concept and students' environmental behaviour is positive and signi_cant with the result of correlation is 0,360, and (3) the correlation both children's parenting and self concept is positive and significant with the result of contributed 0,253 towards environmental behaviour.

PAPER ID: 49

Title: Design of IT Governance Evaluation Using COBIT Framework through Capability Maturity in Department of Transportation Cirebon
Author: Lena Magdalena, Yuni Awalaturrohmah Solihah
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Abstract:
IT Governance Evaluation has not been carried out optimally because supervision and evaluation of IT is only done if there are complaints from work units regarding IT services. These problems relate to the services that need to be provided to users of the information system, starting from the operations that need to be carried out on data security, sustainability aspects, training of human resources that support the processes of the information system and related to the support processes that should first be determined to be able to give service. This research method used qualitative research by using COBIT 5 framework dealing with the system analysis and design using the Usecase Diagram, Activity Diagram, Sequence Diagram, and Class Diagram tools. The programming language used is PHP Hypertext Prepocessor (PHP) while the database uses MySQL. This application was created to provide information about managing the IT Governance Evaluation in Department of Transportation Cirebon. The results of this study is IT Governance Evaluation using Cobit 5 Framework. Regarding to the IT Governance using COBIT 5, the Capability Maturity Level is at 3.28 that means defined-process. It represents that the IT Governance has been implemented to reach the goal of this organization. This assessment was aimed to determine the capabilities of IT performance and make recommendations for the proper management of IT Performance Management so that it can be used as a guide that can be used by the user and can increase the use of facilities optimally for better improvement of Department of Transportation Cirebon.

PAPER ID: 51

Title: Brand Image of Bina Sarana Informatika: The Effect of the Use of "Obama-Like" Endorser in the Obama Version TV Advertisement towards the Brand Image of Bina Sarana Informatika (BSI)
Author: Jusuf Fadilah, Anisti Anisti, Ita Suryani, Azwar Munanjar, Agus Priadi
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Abstract:
This article aims to identify attributes of Obama-Like endorser in the TV advertisement that is most appealing to the students. The article also seeks to examine students'perceptions about this endorser in the TV work. A number of people consists of 279 students of Academy of Communication in Bina Sarana Informatika majoring in Advertising semester 2 and 4 aged 18 to 24 was conducted. Questionnaires were used to identify the specific elements of advertisements using Obama-Like endorser. Students were needed to answer the questionnaires to see how advertisement using Obama-Like work. Results found that questionnaires were best able to recall Obama-Like endorser whom students considered funny and attractive. Students identified popularity, a good image and congruence between the model and the brand as important factors for marketers. A majority of students perceived that this endorser would increase brand image. A Pearson correlation analysis on how advertisement using Obama-Like

endorser work from the point of view of students was constructed and the results The results of this study produced a correlation value of 0.718 and a determination coefficient of 51.5%.

PAPER ID: 52

Title: The Implementation of Stream Architecture for Handling Big Data Velocity in Social Media
Author: F Hamami, I A Dahlan
Email: -

Abstract:
Big data is a term of complex data and difficult to process. It consists of several characteristics called 6 Vs. Many applications generate huge data and grow rapidly in seconds. This kind of data comes from many sources such as social media, Internet of Things, log system, e-commerce and so on. This rapid data should be handled with a different approach in big data solutions. This paper proposes to create stream architecture for big data velocity with open source technologies such as Apache Kafka and NoSQL database. The implementation is to handle massive incoming data from social media with specific keywords from Twitter and ingested to NoSQL Database though stream architecture. Historical data then processed to gain valuable insight for better information

PAPER ID: 54

Title: The Effect of Work Environment, Competence, and Motivation on Employee's Performance in Electronic Companies in the Industrial District of Bekasi Regency Indonesia
Author: Sabil, Suhartono, Slamet Heri Winarno, Octa Pratama Putra, Dwiyatmoko Puji Widodo
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Abstract:
Employee performance is an important element to assess the level of success of the company is running its business. Many factors can affect employee performance, including the environment, work, competence, and employee motivation. This study aims to explore the relationship of influence between these three factors on employee performance. The sample of respondents selected were employees who worked at several electronic companies in the Bekasi Industrial Area, West Java, Indonesia. This study uses structural equation modeling (SEM) and path analysis to test the level of influence of the variables used. The use of 183 employees who come from different characteristics, age, sex, length of work, education, and income are used to test the effect of the work environment, competence and motivation on performance. The results showed that performance was more significantly influenced by the work environment and motivation as intervening, while competence did not significantly influence performance. Motivation also directly influences performance. Companies must be able to create attractive work environments so that employees can be motivated and make optimal use of employee competency planning. This study focuses more on how the work environment, competence, and motivation affect performance both partially and simultaneously

PAPER ID: 55

Title: Designing a conceptual framework of a smart city for sustainable development in Bangladesh
Author: A I Sourav, N Deborah Lynn, A J Santoso
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Abstract:
A smart city is a future solution to better management of the city and people. Recent researches have highlighted the necessity of smart city projects to improve urban lifestyle for the growing population. Bangladesh is one of the most densely populated countries in the world. Despite being a developing country, Bangladesh still lacks a smart city. A smart city framework is required to ameliorate urban lifestyle. The purpose of this study is to address a conceptual framework for a smart city project focusing on sustainable development in Bangladesh. The research approach follows an exhaustive literature review to collect suitable information to design the new smart city framework. Necessary information to design a smart city framework such as the core smart city dimensions and the sustainability indictors are identified through the thorough literature review. From the extracted information a new smart city framework is developed focusing on sustainable development. The findings of this study offer a clear overview of the smart city core dimensions and factors that influence sustainability in a smart city. The research presents a smart city framework that can be followed in a developing country like Bangladesh

PAPER ID: 56

Title: Measuring The Quality of Website Services covid19.kalbarprov.go.id Using The Webqual 4.0 Method
Author: Kartika Handayani, Eka Herdit Juningsih, Dwiza Riana, Sri Hadianti, Achmad Rifai and Rosi Kusuma Serli
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Abstract:
Website covid19.kalbarprov.go.id is a website that serves as a medium for spreading information about the spread of the coronavirus in West Kalimantan. Currently, the number of covid19.kalbarprov.go.id website users is very large because many people want to know the latest information about the coronavirus in the West Kalimantan region. Therefore it is necessary to measure the level of user satisfaction on the site covid19.kalbarprov.go.id. The purpose of this study is to determine the level of user satisfaction with website services using the Webqual 4.0 method. Webqual is one method of measuring website quality based on the perception of endusers. Webqual variables are usability, information quality, service interaction quality, and user satisfaction. In processing research data using the smartPLS application to determine the level of validity and reliability of the data obtained. The results showed that usability, information quality, and service interaction had a positive effect on User Satisfaction. So it can be concluded that the quality of usability, quality of information, and quality of service interaction affect the satisfaction of website users covid19.kalbarprov.go.id

PAPER ID: 57

Title: Analysis of Community Satisfaction Level Against the Ministry of Health's Infection Emerging Websites Using Webqual 4.0
Author: Fadillah Said, Khabib Astoni, Dwiza Riana and Asri Wahyuni
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Abstract:
As one form of communication and information media, web sites have a very big role in representing a government institution to interact with the public. A website is designed in such a way as to meet certain service quality standards set by the developer. However, good service quality must also consider perceptions from the point of view of users in this case the wider community. The study purpose is to determine the level of community satisfaction with the quality of the website as an indicator of success by the government in conveying information to the public. The method used in this study is to distribute questionnaires with a Webqual approach which is of three categories, specifically Usability Dimension, Information Quality Dimension, and Service Interaction Dimension. The data were obtained then analyzed using the Structural Equation Model (SEM) Technique with the SmartPLS 3 software. Based on a survey of 104 respondents, it was found that in general users were satisfied with the services on the website.

PAPER ID: 58

Title: User Satisfaction Analysis of Pikobar Covid19 Website Using the Webqual Method
Author: Dinar Ismunandar, Yanto, Dwiza Riana, Fatmawati, Hylenarti Hertyana and Vito Triantori
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Abstract:
The PIKOBAR website is used as a place for public information in the form of data distribution of covid-19 sufferers that occurred in West Java. In this study, the quality of the PIKOBAR website is measured using the Webqual method as a measurement tool for website system development, where there are variables consisting of assessing the quality of usability, information quality, service interaction quality and interface quality. In determining the results of the four variables, SmartPLS is used to determine the effect of these variables on respondent satisfaction. Data obtained in this study were obtained from questionnaire processing as many as 120 respondents. The results obtained in this study include (1) quality of usability does not have a positive and significant effect on website user satisfaction, (2) the quality of information that is positive and significant for website user satisfaction, (3) the quality of service interactions has a positive and significant impact on website user satisfaction, and (4) quality of interface has a positive and significant effect on website user satisfaction. These results indicate that the quality of information, the quality of service interactions and the quality of the interface have a positive influence on PIKOBAR website users.

PAPER ID: 59

Title: Analysis of User Satisfaction on Corona.Jakarta.go.id Website: Use Webqual Method 4.0
Author: Fakihotun Titiani, Erni, Dwiza Riana, Cahyani Budihartanti, Syaifur Rahmatullah and Taransa Agasya Tutupoly
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Abstract:
The Corona.jakarta.go.id website is a website owned by the Jakarta city government as a provider of information related to Covid-19, the website contains data on the distribution of Covid-19 throughout Indonesia and specifically Jakarta, as well as appeals to the public and other information for overcoming Covid-19 in Indonesia. Indonesia is experiencing a pandemic Corona Virus or Covid-19, many websites are built as a form of government contribution to the response of Covid-19. As one of the websites which is a place for information related to Covid-19, of course many people access the website, with the information presented on the website, the website user satisfaction research is carried out by distributing questionnaires to the public. From the description of the problem, a Corona.jakarta.go.id website quality measurement is carried out using the Webqual 4.0 method whose aim is to find out the Webqual variables that affect user satisfaction, from the Webqual 4.0 indicators what needs to be improved for and provide recommendations improvement. Based on the results of a survey of 109 respondents obtained the value of R square for the variable user satisfaction by 0.448 or 44.8% through linear relationships, while the value of the remaining 0.552 or 55.2%, influenced by other variables outside this study.

PAPER ID: 60

Title: Stock price prediction using artificial neural network integrated moving average
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Abstract:
Stock prices are always interesting to be a research topic because stock prices always change at any time. Stock price index is a benchmark for shareholders to sell, buy or maintain it. As in this study, the data used is the closing price of ANTM's share price which is then processed to predict future stock prices. The proposed method in this study is an integrated moving average which is used to transform data in order to improve data quality. So that it can improve the accuracy of predictions on the neural network. Based on the experiment conducted using 10 combinations of parameters on the neural network using integrated moving average, has been able to produce the RMSE value. And validation based on t-test also showed a significant difference compared to the previous model. So from the result of experiment use an integrated moving average proved to be able to improve neural network performance.

PAPER ID: 61

Title: Taking the Host Community's Control Back Towards Negative Impact of Voluntourism. Case Study in Japanese Language Course Bunka Kenkyuukai, Yogyakarta Indonesia.
Author: Devita Widyaningtyas Yogyanti, Emmita Devi Hari Putri, Citra Unik Mayasari, Atun Yulianto, and M. Fathurrahman Nurul Hakim
Email: devita.ded@bsi.ac.id

Abstract:
This research is qualitative research about how to maximize benefit and reduce the negative impacts of voluntourism in Japanese Language Course Bunka Kenkyuukai in Yogyakarta. Some negative impacts that obstructed Bunka Kenkyuukai's course activities happened because Bunka Kenkyuukai as a localhost community did not have any control in running of voluntourism program. This research was done by doing some observations and interviews with the director, staff, teachers, and students in Bunka Kenkyuukai. The result of this research is a piece of advice that can be done to take control of running the program, so the program can provide more benefits. The proposed suggestion in this research by doing some internal management start from strategy management with adjusting the voluntourism program to the Bunka Kenkyuukai's purpose, marketing management by making the program as marketing material, operational marketing by redesign the running of voluntourism program, up to financial management by making projections of income and expenditure items related to the voluntourism program. By doing so, the voluntourism program is expected to provide more benefits to Bunka Kyenkyuukai not only in student's progress but also business continuity of Bunka Kenkyuukai.

PAPER ID: 62

Title: Millennial Impulse Buying Behavior in E-Commerce: A Phenomenological Approach of University Students in Jakarta
Author: Dr. Agus Cholik, MM
Email: babypoernomo1966@gmail.com

Abstract:
This study aimed at answering the research questions on what factors influence many students in Jakarta experience impulse buying in shopping through e-commerce and how students choose the right e-commerce to meet their shopping needs. In this research, a phenomenological approach was adopted since it described what all participants have in common as they experienced a phenomenon. The author conducted in-depth interviews with participants consisting of female college students in Jakarta to find out what factors encourage students to experience impulse buying from e-commerce. The findings of this study reveal that impulsive buying behavior experienced by female students is supported mainly by two factors namely more attractive products and affordable prices. The research also proved that the service and product quality are factors determining students to choose an online store that become certain challenge for every e-commerce entrepreneur. The findings of this study contribute significant result that can be utilized by e-commerce in Indonesia.

PAPER ID: 63

Title: Employee attendance application using location based service (lbs) method based on android (Case Study of pt. copyright brainmatics informatics)
Author: Achmad Fatkharrofiqi, Herman kuswanto, Taufik Rahman, Sumarna, Felix Wuryo Handono, and Hafis Nurdin
Email: herman.hko@nusamandiri.ac.id

Abstract:
PT. Brainmatics Cipta Informatika is an IT Training and Consulting company located in Jakarta. The development of a company can not be separated from the role of employees in it. The success assessment of existing human resources apart from the aspect of success in the field of work is also inseparable from the assessment of the conditions including the assessment of attendance. Problems that occur at PT. Cipta Cipta Brainmatics is the process of existing employee attendance, attendance is done by using Odoo's web based Enterprise Resource Planning system that stores employee data on coming and outgoing hours that can be accessed anywhere without any location or area restrictions, so employees can do attendance at anywhere, even without having to come to the office. Based on these problems, an Androidbased attendance application was designed by utilizing the Location Based Service (LBS) feature that can be operated using a smartphone and can be used with a limited area determined for the attendance process. This application was built with the Java programming language using Android Studio, PostgreSQL and Objecbox software as its database. It is expected that the application that is designed can resolve the attendance issues that exist at PT. Brainmatics Cipta Informatika.

PAPER ID: 64

Title: TAM Method and Acceptance of COVID-19 Website Users in Indonesia
Author: A Kurniasih, A K Santoso, D Riana, A R Kadafi, W Dari and A I Husin
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Abstract:
The world facing a hard time during this time since the presence of coronavirus (COVID-19). Public can monitor and update the information related the virus and its spread during this time through the internet, Indonesian Mobile website. The purpose of this research is to analyze the factors that influence people's acceptance of the website the using the Technology Acceptance Model (TAM) method. Five constructs of the TAM research model used are Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use, Intentions of Use Behavior and Use of Actual Systems. Data obtained using an online questionnaire from Google Form. Valid questionnaire data is processed using the SmartPLS 3 application using three structural analysis models, namely external model analysis, inner model analysis, and hypothesis testing.The results showed that of all the hypotheses studied and obtained in each hypothesis can be stated significantly and proven acceptable.

PAPER ID: 65

Title: Competency Development Strategy for MSME Actor in The Use of ICTs in Rural and Urban Areas in An Effort Support Business Sustainability (Case Study of MSMEs in The Regency and City of Bandung Indonesia)
Author: Vera Yanti, Sri Arfani, Eka Dyah Setyaningsih, Slamet Heri Winarno, and Nurhidayati
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Abstract:
This research aims (1) to analyze business competency level in rural areas and utilizing ICT facilities in Bandung, (2) to analyze MSME business competency level using ICT in rural and urban areas, and (3) to formulate appropriate strategies in developing business competition applications in business use ICTs to support business sustainability. This research was carried out in stages. Location selection is done deliberately. This research was conducted in Bandung Regency and Bandung City from December 2018 to May 2019. The sampling technique used non-proportioned stratified random sampling. The sample of respondents was 313 based on the total population selection of 3.033. The data analysis method in this research used Slovin's formula, then the total sample was 323 business donors. This research used a descriptive quantitative approach, inferential analysis with the Kruscall Wallis test, and the Dunn test. Based on the results of individual or part of the business competent in using ICT tools show that The SMEs of Bandung Regency is lower than the City of Bandung. The results of the overall differences of the variables that brought together MSMEs in the urban and rural areas of Bandung showed a difference. Competency development strategies that began with the first time, namely (1) Strengthening pilot business efforts using ICT facilities in the second stage (2) increasing ICT support facilities, efforts must be made through empowerment support programs, increasing motivation to increase community participation, improving training models to use ICTs that are tailored to business needs, enhance business partnerships with higher education institutions. Efforts must be made through empowerment support programs, increasing motivation to increase business community participation, applying training models for the use of ICTs tailored to the needs of business people, increasing business partnerships in collaboration with higher education institutions.

PAPER ID: 66

Title: Clustering Based Undersampling for Handling Class Imbalance in C4.5 Classification Algorithm
Author: Wahyu Nugraha, Muhammad Sony Maulana, Agung Sasongko
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Abstract:
Machine Learning is very difficult to make an effective learning model if the distribution of classes in the training data set that is used is not balanced. The problem of class imbalance is mostly found during classifications in the real world where one class is very small in number (minority class) while the other classes are very numerous (majority in class). Building a learning algorithm model without considering the problem of class imbalance causes the learning model to be flooded by majority class instances so that it ignores minority class predictions. Random undersampling and oversampling techniques have been widely used in

various studies to overcome class imbalances. In this study using the undersampling strategy with clustering techniques while the classification model uses C4.5. Clustering is used to group data and the undersampling process is performed on each data group. The goal is that sample samples that are useful are not eliminated. Statistical test results from experiments using 10 imbalance datasets from KEEL-repository dan Kaggle dataset with various sample sizes indicate that clustering-based undersampling produces satisfactory performance. Improved performance can be seen from the sensitivity and AUC values that increased significantly

PAPER ID: 67

Title: Comparing Classification Algorithm With Genetic Algorithm In Public Transport Analysis
Author: Riska Aryanti , Andi Saryoko, Agus Junaidi, Siti Marlina, Wahyudin, and Lia Nurmalia
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Abstract:
Congestion major cities in Indonesia caused by the proliferation of the use of private vehicles. Some people express their opinions and its opinion regarding public transport users through social media sites and other websites. This opinion can be used as a sentiment analysis material to find out whether the public transport service is positive or negative. The results of the sentiment analysis can help in the assessment and evaluation of the use of public transportation, it is also expected to improve services and facilities from public transportation so that the public tends to have a positive opinion. Based on the results of the sentiment analysis, it is expected that the community will switch to using public transportation which will certainly reduce congestion. In this study also added preprocessing stages by using the GataFramework framework to complete processes that cannot be done on RapidMiner tools. The method used in this study is sentiment analysis with the method of applying genetic algorithms for feature selection with comparative classification algorithms. Performed by testing the composition of various data. From the results of testing for the case in this study, it was found that the Support Vector Machine classification algorithm based on Genetic Algorithms had a fairly good average accuracy of 76.11% and AUC value of 0.778% with the Fair Classification diagnosis level compared to the three methods such as Naive Bayes, Support Vector Machine and Naive Bayes based on Genetic Algorithms. So that in this study Support Vector Machine classification algorithm based on Genetic Algorithm can be recommended as an algorithm classification good enough to analyze land transportation public sentiment. Based on the analysis it is expected that the public sentiment will switch to using public transport which would reduce congestion.

PAPER ID: 68

Title: Popular Content Prediction Based On Web Visitor Data With Data Mining Approach
Author: I D Iskandar , N Ch Basjaruddin, D Supriadi, Ratningsih, D S Purnia, and T Wibisono
Email: iqbal.iql@bsi.ac.id

Abstract:
A quality website has five parameters that must be considered are: information, security, convenience, comfort, quality of service. But of course, the fifth parameter does not always

guarantee the amount through its Web page will increase,from that problem. So research is conducted to predict website content based on visitor data with a data mining approach, this research aims to improve the quality of content on target according to the interest of website visitors. Evaluation of random forest algorithm has the value the accuracy of classification of 71 percent by value of Kappa 0.712 whereas the k-NN algorithm has higher accuracy values of random Forest algorithm i.e. worth 84.88 percent and kappa values of the mean 0.847 the k-NN algorithm performs data processing process predictions against data of web content more effectively than the random forest

PAPER ID: 69

Title: Assessing E-Commerce Success from a Millennial Perspective in Indonesia
Author: Irfan Mahendra, Sulistianto SW, Astriana Mulyani, Agus Wiyatno, and Oki Rosanto
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Abstract:
This research was conducted to assess the success of e-commerce from the perspective of the millennial generation in Indonesia. This research was conducted through a case study on the Bukalapak Application, which in recent times has decreased from the perspective of the number of visitors. This study refers to the DeLon and McLean Updated Information System Success Model. The measurement indicators used in this study were modified based on a review of several recent studies. Data collection was carried out using a questionnaire distributed to 291 respondents consisting of Bukalapak Application users who are included in the millennial generation in Indonesia. Based on the research results above, it can be concluded that all hypotheses can be accepted. Where the quality of information and customer satisfaction has a stronger influence on the use of the Bukalapak Application. Whereas service quality and system quality have a stronger influence on customer satisfaction in using the Bukalapak Application. Then user satisfaction has a stronger effect than using the system at a net profit. It is also known that the millennial generation in Indonesia also considers that the Bukalapak Application has good information quality, system quality, and service quality. Millennial also claims to have used the Bukalapak Application and expressed satisfaction with using the Bukalapak Application and stated that the Bukalapak Application was useful.

PAPER ID: 70

Title: OVO E-Wallet as a Platform of Digital Payment in Indonesia: An Empirical Analysis
Author: W Widiyanti, V Islami, Rani, Syahrir, and Rosento
Email: wiwik.www@bsi.ac.id

Abstract:
Nowadays, payment systems in the digital era use more electronic money than physical money; one of the famous ones is the OVO e−wallet. OVO has supported in some various merchandises, so that people can easily download and use it. Moreover, the trust of the community is very important that OVO continues to be used in every online transaction in almost every places and vendors.The purpose of this study is to study the factors that influence the use of OVO by its consumers. The location of the research in Depok, West Java, Indonesia.

The number of respondents is 123 persons; who were surveyed by online using the convenience sampling methods. This type of research is a quantitative research with explanatory analysis. The analysis technique uses validity, reliability, and hypothesis testing using the AMOS application as a data processing tool. The results of this study indicate that the perceived ease of use, trust, and usefulness significantly intention of OVO use. Based on the results of the research, the research proves that OVO can convince the users of the data in the OVO application that confidentiality is guaranteed so that OVO can be trusted.

PAPER ID: 75

Title: High Accuracy in Forex Predictions Using the Neural Network Method Based on Particle Swarm Optimization
Author: Nia Nuraeni, Puji Astuti, Oky Irnawati, Ida Darwati and Danang Dwi Harmoko
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Abstract:
In forex trading, trader has to predict the risk in forex transaction and how to gain or increase the profits based on analysis. The purpose of this study is to predict the value of the USD against the IDR by comparing the neural network method with the neural network method based on Particle Swarm Optimization (PSO) to find out which level of accuracy is higher. This method was chosen by the author after reading several previous studies using PSO-based Neural Networks showing a higher level of accuracy compared to using Neural Networks without PSObased. From the results of the study it was found that predictions using Neural Networks strengthened with PSO resulted in very high accuracy.

PAPER ID: 78

Title: The Influence of "Check The Risk of Contracting Coronavirus" Application Quality from Alodokter on The Benefits Gained by Users, to get COVID-19 Early Detection
Author: A Firizkiansah, B Kriswantara,D Riana,A Widayanto,F Akbar and E S Budi
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Abstract:
This research uses the IS Success Model DeLone and McLean approach to finding the relationship that occurs between the quality of the Alodokter application to check the risk of contracting coronavirus. This research also tries to figure out how much benefit users have gained in conducting early detection of COVID-19. This Model uses six interrelated variables, including system quality, information quality, service quality, usage, user satisfaction, and clean benefits. With 200 respondents, data analysis uses the partial least square structural equation model (PLS-SEM) method with SmartPLS 3.0 software. This research gives the results that the better the quality of information and services of the Alodokter application, the more benefits gained by the user. However, the system quality factor from the Alodokter application does not affect how much benefits a user gains while they use the app.

PAPER ID: 79

Title: Efficiency Measurement of Operations Management of Clean Water Company using DEA

Author: Hardiyan, EW F ridayanthie, NASeptiani, ASayfulloh, AKusumaningrum and Wahyudin
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Abstract:
Clean water is the most fundamental need for humans, it can be said to be the source of life. Water is an important factor in the future development process, if the management of water resources is wrong, it can cause a socio-economic development crisis for all countries. In 2017, water needs for residents of the city of Jakarta only reached 60% that served by clean water. The problem that arises is the lack of clean water supply, therefore research is needed to measure the level of efficiency, so that companies become a reference for overcoming unserved areas. Therefore DEA method is needed to measure the efficiency relative of a company. DMUs are based on annual data comparisons from 2014 to 2018 refer to homogeneous data. Efficiency measurements of clean water companies show a positive trends every year. In 2017 and 2018, the company showed extraordinary achievements with a relative level of efficiency reaching 100% or a value of 1, so that it can be a reference for the following years.

PAPER ID: 80

Title: Approval of Sharia Cooperative Customer Financing Using PSO-Based SVM Classification Algorithm

Author: Nurajijah, Fachri Amsury, Irwansyah Saputra, Frieyadie, Daning Nur Sulistyowati, Bakhtiar Rifai
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Abstract:
Credit financing approval is an important task for financial institutions. The accuracy of decision making in accepting or rejecting credit applications must be precise and accurate. Data mining techniques can help credit approval with a smaller risk of error. Previous research has been carried out to classify customer loan history data with the highest accuracy obtained by the Support Vector Machine (SVM) algorithm. This study aims to improve the accuracy of previous research in classifying loan history data based on smooth and stuck credit labels to predict credible prospective customers. The algorithm used in managing the data is Support Vector Machine with Particle Swarm Optimization (PSO). The dataset used was 869 records from January 2015 to September 2018, labeled 291 records and 578 records smoothly. The results of the study proved that the Support Vector Machine algorithm based on Particle Swarm Optimization produced the best performance with an accuracy of 90.91% compared to SVM without PSO of 89.86%.

PAPER ID: 82

Title: Effect Of Inflation, Bi Rate And Net Export To Usd Central Exchange Rate To Rupiahs In Bank Indonesia For 2005-2019
Author: Sri Harjunawati, Ida Hendarsih, Syahrial Addin,and Amas Sari Marthanti
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Abstract:
This study discusses the USD Central Exchange Rate of USD To Rupiah at Bank Indonesia as a Dependency Factor (Y), with independent factors that can approve internal aggregates, namely Inflation (X1), BI Rate (X2), and Net Exports (X3). The hypothesis used in this study is Inflation (X1) that applies to the USD Middle Rate Against Rupiah at Bank Indonesia (Y), whether the BI Rate (X2) is related to the USD Middle Rate Against Rupiah at Bank Indonesia (Y), whether Net Exports (Y X3) against the USD Exchange Rate Against Rupiah at Bank Indonesia (Y), and whether Inflation (X1), BI Rate (X2), and Net Exports (X3) simultaneously oppose the USD Exchange Rate Against Rupiah at Bank Indonesia (Y). The data used are secondary data released by the Indonesian Central Statistics Agency and processed using SPSS.22. The classic test is done using the Normality Test, Autocorrelation Test, and Multicollinearity Test. Hypothesis testing is done using a Simple Linear Test and Multiple Linear Test. This research resulted in a calculated value of X1 against Y of -1.318; the value of t-count X2 against Y is -1,963; and the t-value of X3 against Y is -3,803. The t-table value is negative in this study -2.16037. Multiple linear tests in this study produced a calculated F value of 4.670¿ 3.587 (F table). The regression equation in this study is Y = 12,226,241 - 166,022.X1 + 196,115.X2 - 0,101.X3 + e. The coefficient of R value is 0.748 and the value of R square is 0.56

PAPER ID: 83

Title: Neural network parameters optimization with genetic algorithm to improve liver disease estimation
Author: H Harafani,I Suryani, Ispandi, N Lutfiyana
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Abstract:
Liver disease is an important public health problem. Over the past view decades machine learning has develop rapidly, and it has been introduced for application in medicalrelated fields. In this study we use neural network method to solve regression task of liver disorder dataset. Genetic algorithm applied for optimize NN parameters to improve the estimation performance value. NN-GA performance results show the most superior value compared to another methods.

PAPER ID: 84

Title: Teacher Attendance Monitoring System Teaching with QR-Code and Geo Location using Android Platform
Author: I Amirulloh, I d Iskandar, Y Apriyani, A I Warnilah, D S Purnia and M surahman
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Abstract:
The world of education has a good level of reputation if it has a professional educator staff and with high integrity, one of the examples is that educators must be hardened on time and not truant to teach students at school. So that the stigma of students and the community does not give a negative value.The role of the principal is also very important to build high integrity, a principal must always monitor every day the teachers who enter the class. But the limitations and the many teaching hours of teachers that must be monitored make the principal difficult because of limited time and other busyness. So the need to design and build an Android platform-based application that is intended to monitor the schedule, and the presence of teachers in real-time called Teacher Attendance Monitoring System Teaching with QR-Code and Geo-Location. SoftwareThe software is intended to make it easier for principals to monitor teachers who teach in class in realtime. Black box testing results show 100% for functional testing of systems and for testing the application interface has a 100% success rate. Then the software is feasible to use.

PAPER ID: 85

Title: The Influence of Pikobar Application in Suppressing the Rate of Coronavirus Spread
Author: Bagus Dwi Wicaksono, Dwin Indrawan, Dwiza Riana, Andi Taufik,Yamin Nuryamin and Dian Ambar Wasesha
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Abstract:
Coronavirus has developed massively in Indonesia, in the face of Coronavirus, Indonesian people are required to be able to survive the outbreak, by not interacting directly between people. Pikobar is one of the applications on a smartphone (android), which can provide up-to-date information about the development of the coronavirus in Indonesia (especially in West Java), which allows people to receive that information without having to do physical interaction between communities. To find out the level of customer satisfaction in using the pikobar application, the TAM method is used. the data collected was obtained from the results of a survey of the Indonesian population. The survey results were processed using smartPLS. From the results of the study showed if perceived ease of use of the application greatly influenced the community to use the pikobar application, so that the public could use the application in accordance with the application's purpose, namely to reduce the rate of coronavirus spread.

PAPER ID: 86

Title: Analysis of the AMARI COVID-19 application with the Technology Acceptance Model Method
Author: A Nuryanto, O Setyawan, D Riana, S Hadianti, AMB Aji, E Pujiastuti
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Abstract:
The purpose of this research is to know the influence of the application of AMARI COVID-19 to how well the use of the application is received in the community to prevent the spread of the virus Covid-19. This type of research is explanatory research with a quantitative approach. To

this end, their responses to an online questionnaire (n=113) were analyzed using IBM SPSS Statistics 21 as software. The sampling techniques used are simple random sampling. Descriptive analysis is used to analyze the research hypothesis. The test results of the five hypothesis in the study stated that the AMARI COVID-19 application has a significant effect on the prevention of the spread of Covid-19 viruses, meaning it is accepted by the wider community as one of the tools that can help prevent the spread of COVID-19 diseases.

PAPER ID: 88

Title: Journal of Chemistry: Effect of 3-Phenyl Propanoic Acid as Co-Adsorbent in TiO2 Photoanode Sensitized N719
Author: Retno Suryaningsih, Jarnuzi Gunlazuardi, Rahmat Wibowo
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Abstract:
Limited energy sources due to increasing energy needs from year to year makes a great desire to realize alternative technologies for renewable energy sources. One of them is photoelectrochemical based solar cell devices such as Dye Sensitized Solar Cell (DSSC). The DSSC system consists of TiO2 semiconductors, N719 dyes, I- / I3 - electrolytes, and Pt/FTO electrodes. So far, DSSC is quite promising as an alternative device for renewable energy sources. However, there is still an important thing to note in DSSC is the existence of short photocurrents that cause hole electrons to be disrupted; hole become empty and in the long term cause damage. Therefore, efforts should be made to overcome them. One of them is the treatment by adding 3-phenyl propanoic acid loading to the TiO2 photoanode sensitized N719. In this study, tested the effect of adding co-absorbent with variation concentration of 0.1; 0.2; 0.3; 0.4 and 0.5 mmol/L and variation of immersion time for 6, 12, 18 and 24 hours. The results of TiO2 nanotube preparation were characterized using SEM-EDX, XRD, FTIR, UVVis DRS, and potentiostat. While the TiO2/N719/PPA preparation was characterized using UV-Vis DRS and tested for efficiency in the DSSC assembly. The best DSSC efficiency test results were 7.30% at the optimum concentration of 3-phenyl propanoic acid co-absorbent 0.5 mM and the optimum immersion time at 18hours

PAPER ID: 89

Title: Use Case Points (UCP) with 3 Point in Program Evaluation and Review Technique (PERT) to Estimate Effort Software
Author: E Prayitno, J Siregar, Y N Dewi, C Bachri, L Indriyani, S Ma'arif
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Abstract:
Software has an important influence in business to accelerate and manage business processes better. Software development projects and projects in general require precise estimates for good business management and running smoothly. The method of Use Case Points is one of the methods used to estimate object-based software utterances, but there are some disadvantages such as subjective assessment of Technical Complexity Factor (TCF) and Environmental Complexity Factor (ECF) for novice developers who are inexperienced. Three points from the

Program Evaluation and Review Technique (PERT) are used at UCP to help estimate the two factors better by modifying both assessment factors. By using 3 PERT points in UCP, it is expected to help novice developers in estimating the size of the software as predicted by experienced developers. Results of the calculation of the estimated software information systems sales of goods in the Madrasah Istiqlal foundation obtained an effort value is 1,011 man-hours.

PAPER ID: 90

Title: Analysis of Factors Affecting Quality of corona.jatengprov.go.id Website Towards User Satisfaction using Webqual 4.0 Method
Author: Ranu Agastya Nugraha, Dwi Andriyanto, Dwiza Riana and Siti Nur Khasanah
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Abstract:
This research focuses on how to measure the quality of a website using the Webqual 4.0 method, what are the factors that influence user satisfaction. The PLS-SEM technique was used to verify questionnaire data from a sample of 155 respondents. The result shows that the quality of service interaction has a significant (positive) effect of 54.2% compared to the aspect of information quality and usability quality that has no significant effect. These results indicate that the corona.jatengprov.go.id site users expect quality of service interaction as a measure of satisfaction from the quality of a website. Users are more likely not to see deficiencies in the aspect of information quality and usability quality according to the assessment of satisfaction given. Therefore, the corona.jatengprov.go.id website manager needs to focus on the quality of service interaction aspects of website as a priority in improving grade

PAPER ID: 91

Title: Influence Of Overload Information About COVID-19 Pandemic On Internet For Psychological Illnesses And Behavioral Intentions To Continue Searching For Information
Author: N M Fadhilah, S Fauziah, D Riana, A Eko, A Yulianto, B M Sulthon
Email: dwiza@nusamandiri.ac.id

Abstract:
Information about COVID-19 is now very easily accessed on the Internet, even too much. The phenomenon of excessive information obtained can also be linked to psychological illnesses and obtain information retrieval. this article conducts research about information overload about the psychology of information seekers and their protection. The study used the TAM method with SEM tools with 380 respondents. The results of the study show that excessive online information about COVID-19 has a positive influence on the psyche and affects the relationship of information seekers not to continue the search results.

PAPER ID: 92

Title: Utilization of Information System in Electrical Panel Project Management to Provide Various Facility in Project Implementation
Author: Oleh Soleh, Rosdiana, Meta Amalya Dewi, Yosi Fitria Ningsih
Email: oleh.soleh@raharja.info

Abstract:
The development of technology, especially in the field of information and communication from year to year plays an important role in human life. At present many projects specifically deal with work in the field of information technology. Project management is a scientific discipline in terms of planning, organizing, managing, to be able to achieve project objectives. For a small company that is just running a business, a system that can do the processing of a project is needed. Usually the data processing and project control processes still use manual paperwork and result in not requiring a lot of time so that it impacts on the preparation of project reports. The existence of a project management system can make it easier to make reports on the results of ongoing projects. The research method used consisted of; data collection methods, namely: interviews, observation, and literature study. For analysis using the BSC (Balanced Scorecard) analysis method. This system is made using PHP programming language and Mysql database. The system design uses the design of the UML (Unified Modeling Language) model. The testing method used is the Black box Testing method. The results of this study are a project management application system that helps companies in terms of data management, starting from the tender project, material data, until the reports generated

PAPER ID: 93

Title: Public Acceptance Of Pedulilindungi Application In The Acceleration Of Corona Virus (Covid-19) Handling
Author: Kurniawati, M Khadapi, D Riana, A Arfian, E Rahmawati, and Heriyanto
Email: dwiza@ nusamandiri.ac.id

Abstract:
Coronavirus Disease (COVID 19) is a subject of ongoing scientific discussion in Indonesia and the world, COVID-19 confirmed cases continue to grow in Indonesia, this is influenced by the factor of the lack of more knowledge and awareness that some people have for the disease. Application PeduliLindungi was made by the Ministry of Communication and Information together with several state-owned agencies and Badan Usaha Milik Negara (BUMN) aimed at helping government agencies break the chain of transmission of COVID-19. Sample data from Technology Acceptance Model (TAM) is used to check the acceptance of the use of the application PeduliLindungi from 115 active respondents spread across Indonesia for analysis using SmartPLS. The analysis shows that the ease of use of the PeduliLindungi application greatly influences the usability and attitude in using it. The attitude in the use and usefulness of application PediliLindungi greatly influences the intention to use it. The use of the application PeduliLindungi has very little effect on the attitude to use it. In Conclusion the use of the applaication PeduliLindungi will increase because of the ease of use, it also indicates the level of acceptance of the application

PAPER ID: 94

Title: Optimization of Decision Tree with PSO on Sharia Cooperative Customer Funding
Author: Eka Rahmawati and Candra Agustina
Email: eka.eat@bsi.ac.id

Abstract:
Credit is a service for Sharia Cooperatives to provide funding to customers who are paid in installments. The accuracy of the customer paying the payments is a determining factor for the smooth operation of the Sharia Cooperative. In addition to timeliness, the ability of customers to pay installments is also the most critical factor for credit returns. Bad credit is a significant threat for Sharia Cooperatives where customers cannot pay payments according to agreed agreements. That makes the prediction of the smooth operation of Sharia Cooperative customers needed. One way that can be done to make predictions is to apply data mining techniques. To make a prediction, several attributes of the customer are used, such as gender, age, status, residency status, number of dependents owned, education, employment, remittance, ceiling, type of loan, credit period, method of payment and collat- eral used. The research will use the J48 as one of the Decision Tree algorithms with particle swarm optimization techniques to improve algorithm performance. The accuracy of J48 with PSO is lower than without PSO.

PAPER ID: 96

Title: Gojek And Grab User Sentiment Analysis On Google Play Using Na¨Ive Bayes Algorithm And Support Vector Machine Based Smote Technique
Author: Hermanto, Antonius Yadi Kuntoro, Taufik Asra, Eri Bayu Pratama, Lasman Effendi, and Ridatu Ocanitra
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Abstract:
As the online Ojek services, people often talk about them by giving their opinions and opinions through various media, one of which is Google Play opinion given by the public to the services of online Ojek also diverse. Users provide review reviews or comments about the application, of course users will choose an app that has a good review. But monitoring the reviews of the general public is not easy, because the amount is very much to be processed so that researchers want to know the extent of the user review analysis of Gojek and Grab applications based on the review of user comments using the classification technique is using the NB algorithm and SVM based technique Smote. The results of the test with the highest accuracy result 81.09% and AUC value = 0.922 is the application Gojek while for application test results grab accuracy value of 73.20% and AUC value = 0.848. To that end, the implementation of the Support Vector Machine based Smote technique in this study has higher accuracy so that it can be used to provide solution to the sentiment analysis problems in the review user comments online Ojek application

PAPER ID: 97

Title: Usability Evaluation of the Website Services Using the WEBUSE Method (A Case Study: covid19.go.id)
Author: Faruq Aziz, Irmawati, Dwiza Riana, Joko Dwi Mulyanto, Dede Nurrahman, Muhamad Tabrani
Email: dwiza@nusamandiri.ac.id

Abstract:
The purpose of this study is to analyze the site usability evaluation system using the WEBUSE method on one of the information sites about COVID-19 namely the website covid19.go.id. The basic analysis was carried out on 24 usability criteria classified into 5 usability categories, namely: content, organization, and readability, navigation and links, user interface design, performance and effectiveness, educational purpose. Each category deals with one aspect of usability. Data from respondents' answers were analyzed using the WEBUSE method to get the usage point and usability level of the website that has been studied. This research produces a usability evaluation information system that provides an online evaluation questionnaire and this analysis is useful to present high-quality system information and user satisfaction aspects of the website covid19.go.id. The case study on the website covid19.go.id, shows that the level of usability and overall level of user satisfaction is good and acceptable for the general public from all walks of life. And in terms of satisfaction in the user interface design category, it is possible that some people are still uncomfortable with the look of the website.

PAPER ID: 98

Title: Data Mining Technique to Determine the Pattern of Fruits Sales & Supplies Using Apriori Algorithm
Author: Eni Heni Hermaliani, Laela Kurniawati, Tuti Haryanti, Nisa Mutiah, Aan Kurniawan, and Bahrun Said Renhoran
Email: enie h@nusamandiri.ac.id

Abstract:
. Advances in technological developments in the current 4.0 era require retail businesses to increase sales and develop marketing strategies. Determination of which products are widely sold and which products will be propagated in inventory is very important for retail businesses to prevent data accumulation. Data Mining has been widely used to conduct analysis, determine patterns and associations. In this paper, we propose a basic methodology for calculating association analysis with apriori algorithms used to process the most sold products and which products will be propagated in the sales inventory. The results of this study are the calculation model of high-frequency pattern analysis and the formation of association rules and item set combination patterns resulting from the sale of fruit products from retail with the highest support and confidence of the most sold fruit products. Therefore the apriori algorithm can help develop sales strategies.

PAPER ID : 100

Title : Mobile Forensic In Whatsapp Messenger Use Mobiledit Forensics Express And National Institute Of Standards And Technology (NIST)
Author : Andi Saryoko[1] , Refangga[2] , Riska Aryanti[3] , Haryani[4] , Sulaeman Hadi Sukmana[5] , Samudi[6]
Email : andi.asy@nusamandiri.ac.id

Abstract :
Smartphones have become one of the main needs for humans. One of the technological advances and information that can be felt by humans is the sophistication of the features and services that are presented in smartphones, the Instant Messenger application that is used in everyday life by humans in cyberspace. Many ways to eliminate digital data as evidence in an instant messenger application. This is an interesting topic to be raised and used as a research theme. The final result expected from this research is to become a reference in supporting investigations related to finding digital evidence. There are still many users who abuse the smartphone on the instant messenger feature. Users who commit crimes on instant messengers can easily delete digital track records. So that people can find out about cybercrime activities on instant messenger applications, so that it can help the public think about acting wisely in using instant messenger applications. This research is expected to be a reference to support mobile forensic investigations related to cybercrime activity in instant messenger applications, to find out data that has been deleted by the user, the researchers make recovery on applications such as WhatsApp messenger.

PAPER ID : 102

Title : Benefits and Costs of Political Connection, Evidence in Indonesia
Author : Lela Nurlaela Wati[1], Ramdany[2], Momon3
Email : lela@stiemj.ac.id

Abstract :
This study aims to analyze the comparison of the quality of financial statements and company attributes (company value, profitability, size, company growth, and leverage) in politically connected and non-politically connected firms. The research sample as many as 871 large companies in Indonesia. By using the independent t-test different test analysis, the results of the study show that the quality of financial statements in politically connected firms is lower than that of politically unconnected firms. However, firm value, profitability, size, company growth, and leverage in politically connected firms are greater than politically unconnected firms. The implications of this study indicate that political connections can provide benefits as well as costs for large companies in Indonesia. Regulators must encourage companies to disclose better information about the company's financial statements. For investors, this result is expected to be an input for determining investment preferences in companies. Future studies are expected to be able to test more comprehensively and compare them with other countries.

PAPER ID : 103

Title : Association Rule Implementation Using Algorithm Apriori To Analize Fishing Pattern In Indonesia

Author : Titin Kristiana[1] ,Sukmawati Anggraeni Putri[2] , Nurmalasari[3] , Rani Irma Handayani[4] ,Nita Merlina[5] , Norma Yunita[6]
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Abstract :
There are more than 80 species of fish caught by fishermen in the sea of Indonesia. To find out what kinds of fish mostly caught, it is necessary to analyse the data pattern of fish being caught. The activities of searching and associating the data pattern are closely related to data mining technique that being used to discover the rules of association of items. In this associative rule method, there are two process can be used: the process of generating frequent itemset and finding associative rules. The Frequent Itemset Generation is a process to get the connection of the itemset and the value of the association based on the value of support and confidence. The algorithm used to generate the frequent itemset is Apriori Algorithm. The Apriori Algorithm has a weakness in the extraction of the appropriate feature of the used attributes. This condition causes the rules formed in large number. This research applies Apriori Algorithm based on principal component analysis to obtain more optimal rules. After the experiments using the apriori algorithm applied with the magnitude φ = 30, minimum Support 80% and Confidence 80%, the result of the rule formed are totally 82 rules

PAPER ID : 105

Title : Improving English Speaking Skill through Slang Words in a Movie: the Practice of Mind-Mapping Strategy

Author : Baiatun Nisa[1*] , Sulhizah Wulan Sari[2] , and Paramita Kusumawardhani[3]
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Abstract :
The strategy in this study aims to make the Social Conversation lecture for EFL students more effective to be practiced. It purposes the evaluation of the speaking sections of the speaking class that was conducted at Universitas Bina Sarana Informatika Jakarta, Indonesia. The idea that effectiveness in speaking skills can be achieved is that by understanding, liking, using slang words, and practiced them through a mind-mapping strategy that is performed in the students' social life. Thus this study had shaped the realm of English speaking and targeted for costuming the Social Conversation Curriculum for EFL students. A descriptive qualitative method was used in this research. To do this research, the students practiced the slang word taken from the movie. Then the slang words were written down, understood, analyzed, and practiced by assorted creative speaking exercises through mind-mapping strategy before the first evaluation. Two results found in this research; the slang contained in the movie can be very helpful for the English learners to enrich their vocabulary and they can use it for practicing speaking and having English conversation; the mind-mapping strategy saved valuable teaching time, made the need for the Social Conversation and the speaking lecture more effective, and showed the students' evident improvement in daily English speaking practice. The significance of this study revealed that this strategy not only can eventually be applied in the higher education system but

also can save valuable teaching time and aid the development of English Speaking curriculum for EFL students in the future.

PAPER ID : 106

Title : Shopping Tourism Development Through Top Five Products In Yogyakarta City, Indonesia
Author : Ani Wijayanti[1], Amelda Pramezwary[2], Emmita Devi Hari Putri[3], Atun Yulianto[4] , R. Jati Nurcahyo[5] , Erlangga Brahmanto[6]
Email : ani@bsi.ac.id

Abstract :
Yogyakarta is a tourist city that has no natural tourism potential. Shopping tourism become is one alternative strategy to increase tourist expenditure and length of stay in Yogyakarta. This research is a qualitative research that aims to test shopping tourism products in Yogyakarta. This research identifies several tourism products to produce the top five products that will serve as the main magnet for shopping tourism in Yogyakarta. Data was collected through forum group discussion and confirmed through quotation test, then analyzed using data reduction techniques. The study produced the top five culinary products, namely Gudeg, Bakpia, Bakmi Jawa, Joss Coffee, and Kipo, while the top five souvenir products were Batik, Silver, Dagadu T-shirt, Puppet, and Miniature.

PAPER ID : 107

Title : Improving The Effectiveness of Classification Using The Data Level Approach and Feature Selection Techniques in Online Shoppers Purchasing Intention Prediction
Author : I Kurniawan[1*] , Abdussomad[1] , M F Akbar[1] , D F Saefudin[2] , M S Azis[3] , and M Tabrani[4]
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Abstract :
Online shopping is a form of trading using electronic devices that allows consumers to buy goods or services from sellers via the internet. Other names for these activities are: eweb-shop, e-shop, e-shop, internet shop, web-shop, web-store, online shop, and virtual shop. An online store generates purchases of products or services at retailers or shopping centers, which are referred to as business-to-consumer (B2C) online shopping. n another process where a business buys from another business, it is called business-to-business (B2B). Nowadays online shopping has become more sophisticated with trading via mobile phones (m-commerce). Cellular phones have been optimized with an application to buy from online sites. In this study, we proposed a data level approach and feature selection techniques as a solution for the classification of imbalanced data. The imbalance class classification is one of the classic problems in the field of artificial intelligence, especially for classification in machine learning. Imbalanced data have been proven to reduce the performance of machine learning algorithms, where imbalance data means that the total data from each class is significantly different. The proposed method is evaluated using a dataset from the UCI repository and area under the curve (AUC) as the main evaluation. The results have shown that the proposed method produces good performance.

(AUC¿ 0.8). Overall the second experiment outperformed and was better than the first and third experiments because the main evaluation in the unbalanced class classification is AUC. Therefore, it can be concluded that the proposed method produces optimal performance both for large scale data sets. Overall the second experiment outperformed and better than the first and third experiments, because the main evaluation in the unbalanced class classification was AUC

PAPER ID : 109

Title : The Effect Of Macro Economy On Sukuk Requests In Indonesia
Author : Latifah[1*] , Nurmalasari[2] , Sri Dewi Ayu Safitri[3] , Taufik Baidawi[4]
Email : taufiq.tfb@bsi.ac.id

Abstract :
The research aims to describe how the influence of the Per capita Deposit, Inflation and Gross Domestic Product (GDP) Interest Rates on demand for sukuk on Retail Sukuk products in Indonesia. Inflation produces can be concluded that inflation has a significant positive effect on predicting retail sukuk demand. GDP per capita produces a t value has a significant level of demand for retail sukuk when compared to the predetermined degree of error of 0.05. This variable is significant. From the results of the t test it can be concluded that GDP per capita has a significant positive effect. GDP per capita has a positive and significant effect on predicting retail Sukuk demand. This shows that in the period 2012-2019 that positive GDP per capita increased from year to year became an indicator of the rate of economic growth.

PAPER ID : 111

Title : Designing of Agricultural Product e-Marketplace by using UCD method
Author : Wisti Dwi Septiani[1] , Sri Utami[1*] , Octa Pratama Pratama Putra[1] , Noer Hikmah[1] , Popon Handayani[2] , Narti[2]
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Abstract :
The growth and era of information, communication and technology have changed and it has benefits in various sectors, one of them is the economy aspect. The current sales system has been moved from conventional sales into online sales by utilizing technology as a media for sales transactions. Then, one of them is the presence of e-commerce websites and e-marketplaces. The concept of e-marketplaces is a place where buyers and sellers meet, then they make online buying and selling transactions. However, there are still many plantations whose agricultural products have not been reached to be implemented by the marketplace. This problem is based on the cultural factors; it is called through the broker. Also, as well as the lack of education of farmers. The purpose of this study is to design the e-marketplace for farmers, especially in the Bugis Village. The user-centered method is applied where the approach is centered on users, then both consumers and partners. The website-designed is made by looking at the needs of the user side. This e-marketplaces can also be an education for businesses in the field of agricultural products. It is also to be involved in technological advancements by becoming partners in the e-marketplaces, so that they are able to market their products through

online system. In addition, to minimize the use of agricultural products by broker, too. The results of this study are e-marketplace is able to provide convenient websites for users in conducting transactions by using gadgets to access agricultural products. This emarketplaces also supports the promotion of Go Green, which has begun to implement a healthy lifestyle; by starting to consume a lot of vegetables. So, people will easily get best quality of agricultural products from farmers

PAPER ID : 112

Title : Comparison AHP-MABAC And Waspas Methods For Supplier Recomendations
Author : Wina Yusnaeni[1*] , Marlina[1] , Ratih Yulia Hayuningtyas[2] and Retno Sari[2]
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Abstract :
The procurement of the goods or services of a company is determined by qualified suppliers. Therefore, it is necessary for a company to choose and evaluate the suppliers that have cooperated based on the required criteria. The purpose is that all of the suppliers can compete in improving the quality and their consistency as a supplier to the company. The process to decide the appropriate supplier in this study is multicriteria support decision methods that can help in the consistency's criteria and the accuracy of the decision. Here we perform the calculation criteria for consistency with the AHP method that will further calculate the weight of criteria and alternatives against the criteria using the method of MABAC and WASPAS. The results of the data comparison using the method of MABAC have actual results with the suppliers recommended and not recommended compared to the method of WASPAS

PAPER ID : 113

Title : Analysis of Effects on Debt Equity Ratio (DER) and Underwriter Reputation on Underpricing Phenomena in Companies Conducting Initial Public Offering (IPO) on the IDX
Author : Kurniawan Prambudi Utomo[1*] , Sinta Rukiastiandari[2] , Isyana Emita[3] , Faif Yusuf[4] , Fahmi Kamal[5] , and Eneng Iviq Hairo Rahayu[6]
Email : kurniawan.kpu@bsi.ac.id

Abstract :
The purpose of this study is expected to be able to describe the real phenomena of the DER effect and the underwriter reputation of the underpricing phenomenon, this research uses qualitative research with the aim of finding out the relationship between the Debt to Equity Ratio (DER) Effect, and the Underwriter's Reputation on the Phenomenon of Underpricing in the Stock Exchange Indonesia (IDX) and the method this type of research is observational research in the field, namely and the distribution that have been arranged in a structured manner, and carried out collecting information on the IDX, IDX Fact Book, and scientific literature, containing the price of the initial public offering, Debt to Equity Ratio, and the results of the Underpricing research. is an event that occurs in most of the IPO's stock price on the IDX. Underpricing is largely avoided by companies because the company does not obtain maximum funds from the acquisition of capital and its initial investment price is below market price or the price of shares in the secondary market is higher than the price of shares in the primary

market where investors are interested in buying, experiences proven from 104 companies that do IPO until the end of 2018, and there are 96 companies that experience underpricing, underpricing is influenced by several factors, namely the underwriter reputation, company size, the phenomenon of underpricing becomes an important concern and involves many factors.

PAPER ID : 114

Title : Mobile-Assisted Language Learning (MALL): Students' Perception and Problems towards Mobile Learning in English Language
Author : Cicih Nuraeni[1*] , Irmawati Carolina[2] , Adi Supriyatna[3] , Wina Widiati[4] , Syamsul Bahri[5]
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Abstract :
Mobile-Assisted Language Learning (MALL) is the latest learning way in the language education where applications or websites are used to facilitate students learning activities. Mobile phone has been studied years by researchers in its connection with educationrelated activities. This research will focus on its main purposes, they are: 1) students' perceptions in using mobile phone in English language learning classroom activities; 2). the problem of using mobile phone to support classroom activities, especially in English language learning. The method of the research was quantitative method which used 70 students as research object. The data were collected through a 5-point Likert Scale questionnaire. The research found; first, the students' majority had positive perception on the usage of MALL to support classroom activities, especially in learning English language. Second, the problem in internet connectivity is the biggest problems that students faced in terms of using MALL in English language classroom. But, It is hoped that MALL will be used as one of the teaching aids that could assist students in learning English as a Foreign Language (EFL) more effectively

PAPER ID : 115

Title : Analysis of Legislative Candidate's Motivation and Target in General Election 2019 Using Author-Topic Model and Node2vec
Author : Nur Aini Rakhmawati, Hapsari Wulandari
Email : nur.aini@bsi.ac.id

Abstract :
Every legislative candidate registered in the 2019 General Election requires completing various data such as electoral district, name, place and date of birth, party, occupation, status, motivation, and target. Motivation and targets are essential to be known publicly. Therefore, we analyze and visualize the topics modelling in the 2019 General Election data using the Author-Topic Model and Node2vec. The data crawling gathers a total 36.889 legislative candidate data from 16 parties, but only 5.084 data contains motivation and target. The motivation topics modelling generates topics: education, economic and welfare, while the target topic modelling produces topics: the role of legislative member, local development and national movement.

PAPER ID : 116

Title : The Effect Promotion E- Commerce Toward Effectiveness Promotion By Using Attention, Interest, Desire and Action (AIDA) Methods For Adpers – Art Community Product
Author : Nurvi Oktiani[1] , Haryani[2] , Kartika Yuliantari[3] , Taat Kuspriyono[6] , Rani Kurniasari[4], Jimmi[5]
Email : nurvi@bsi.ac.id

Abstract :
Adpers-art communities is one of community have been built by similarity of hobbies, which is consist of making artworks in paper media or others which have three dimension. This research used quantitative method by multiply analysis regression, the sample from this research include 57 of consumer, the analysis data use reliability test, validity test, multicollinearity, Heteroscedasticity, Autocorrelation, normality, regression test. The Purpose of this research are known, the effect promotion E- Commerce toward effectiveness promotion by using AIDA Methods for Adpers – Art Community Product. For result, it can be described the regression model are elasticity for measuring percentage from dependent variable and change independent variable every 1%, coefficient regression from attention :3.28, interest 6.43, desire : 3.324 as much can make increase effectiveness promotion, and Action :3.309 as much give effect for increasing effectiveness promotion , in advice, Adpers Art Community must think of about how to improve attention, desire and action from consumer with any strategy for example increasing the effectiveness promotion by website and make specify strategies for improve especially attention, desire and action from consumer.

PAPER ID : 118

Title : Financial Technology and Financial Inclusion on MSME: Mixed-Method Research Approach
Author : Lela Nurlaela Wati[1], Heri Ispriyahadi[2], Khoirun Nisa[3] , Mohamad Lutfi[4] , Imam Suprapta[5]
Email : lela@stiemj.ac.id

Abstract :
This study aims to examine the role of financial technology in increasing financial inclusion in Micro, Small, and Medium Enterprises. This research uses mixed-method research with sequential mixed methods especially sequential explanatory strategy. In the first phase, 116 questionnaires were given to respondents as many as 116 MSMEs then conducted interviews with respondents and related parties in depth. Empirical evidence shows that the role of Financial Technology has a positive and significant effect on Financial Inclusion. These results indicate that fintech can increase financial inclusion. Based on interviews, fintech products that are often used by MSMEs are third-party payment systems and Peer-to-Peer (P2P) type of payment systems. Examples of platforms that are often used by MSMEs are Go food, Gopay, Grab food, OVO, JakOne, M-Banking, and SMS Banking. For the Crowdfunding fintech type, it has not been implemented by many MSMEs. The large number of MSME entrepreneurs who have used fintech products in their businesses shows that MSME entrepreneurs have used financial services in the form of savings accounts so that it has an impact on increasing financial inclusion. Suggestions from the results of this study are the Government needs to conduct

regular training on the use of financial technology to MSME actors, there are strong synergy and cooperation in developing a fintech system to improve the digital economic system at MSMEs. Regulations need to be updated with the development of innovations

PAPER ID : 119

Title : Analysis Of Efficiency And Change Of Productivity In The Indonesian Banking Industry Using Data Envelopment Analysis (Dea) And Malmquist Total Factor Productivity
Author : Heri Ispriyahadi[1], Raysa Trierdianto[2]
Email : raysatrierdianto@gmail.com

Abstract :
This empirical study aims to identify differences in efficiency and productivity between state-owned banks, national foreign exchange private banks, and national nonforeign exchange private banks from 2010 – 2016. In the initial step, 43 banks listed on the Indonesia stock exchange were grouped into three groups. Then, we selected sampling using purposive sampling with the criteria of banks with an effective IPO date starts from 2010 onwards, and incomplete financial reports are excluded from sampling. The result was that 21 banks were selected as sampling and represented three bank groups. The research methods applied in this study were Data Envelope Analysis (DEA), Malmquist Total Productivity, and Paired Sample t-test. The outcomes suggest that: (1) national non-foreign exchange private banks have higher efficiency than two other bank groups, (2) change in the productivity of national foreign exchange private banks is powerfully vulnerable to the technological shift rather than changes in technical efficiency. The superiority of group national non-foreign exchange private banks was more efficient in reducing input costs such as labor costs and third-party funds. To cope with these problems, banks in Indonesia need to prompt innovations and advanced technology to improve efficiency and productivity.

PAPER ID : 120

Title : The Appropriate Calculation Cost of Goods Manufactured as Pricing Strategy for Small Sized Enterprises (SMEs)
Author : P R Adawia, A Puspasari, A Azizah, D Mustomi and Asep
Email : popon.pra@bsi.ac.id

Abstract :
This research aims to identify all production costs incurred in production, to calculate the cost of goods manufactured correctly using the Process Costing Method and decision making for determining the selling price of shoes. The research was taken in one of small-sized enterprises shoe factory in East Karawang. The research method is descriptive comparative with a qualitative approach. The descriptive method is used to describe the production costs incurred in the production process including the raw materials costs, supporting materials costs, labor costs, and factory overhead costs. In this research, the data used are primary and secondary data. The COGM calculation results in show that there is variance calculation between company system and process costing method. It is due to calculations that companies do not identify production costs in detail, therefore the company's COGM calculation is inaccurate. The

COGM calculation appropriately can be the company's strategy to determine the selling price. so that company profits can continue to increase.

PAPER ID : 121

Title : Information Technology Governance in Al Kautsar Islamic Elementary School Using COBIT 5 Framework
Author : Haryani[1*] , T Misriati[2] , R Hidayat[3] , D Puspitasari[4] , DA Muthia[5] , And I Elyana[6]
Email : haryani.hyi@bsi.ac.id

Abstract :
This study aims to assess the level of maturity of the use of information technology and obtain a gap value which is then analyzed to achieve the expected maturity value. Management of information technology today is very important, not only focused on profit organizations or companies. With good management of information technology, information within an institution can be achieved optimally, so that institutional goals can be achieved in accordance with the established vision and mission. With reference to COBIT 5 Enabling Process on Enterprise Goals and reality in the field after initial research conducted at Al Kautsar Islamic Elementary School, the scope of the framework for developing Information Technology management models focused on operational and staff productivity in the Balanced Scorecard included in the internal section. The focus of this research was chosen because at Al Kautsar Islamic Elementary School the Information Technology process is still in the development stage. From enterprise goals, IT-related goals can be generated, namely 8 applications, information and adequate information technology solutions and 16 competent and highly motivated IT staff. After collecting and processing data, the results of calculations for each process contained in the customer perspective that determine the achievement value of 2 of the targets set, it is expected that the management can meet these targets. Based on the analysis of audit findings using the COBIT 5 framework, for the six IT processes related to previous goals, the operator staff and the system used at Al Kautsar Islamic Elementary School are still largely in the reactive stage. This means that the application of information technology is still based on current needs, without first doing a careful IT governance planning

PAPER ID : 123

Title : Maintaining The Continuity of The Company's Operation using the NIST Framework for Small and Medium Enterprises
Author : Eko Haryadi[1*] , Dewi Yuliandari[2] , Abdussomad[3] , Diah Wijayanti[4] , Mike Amelia[5] ,and Syafrianto[6]
Email : eko.ehy@bsi.ac.id

Abstract :
Small and medium-sized companies that are starting to grow rapidly should start thinking of protecting all information system assets for survival in industry 4.0. Maintaining the continuity of the company's operations is a problem. Cyber attacks are not only attacking large companies but also randomly threaten other companies' level. The identification of threats and cyber-

attacks is a major problem. The company does not properly understand the gaps in computer network security risks. Many risks will be faced in terms of economic, operational, and technological aspects that must be taken into account. The purpose of this research is to make the company have the ability to understand the security position of information technology and information systems. As a result, the company still needs to adjust its object from the high risk to low risk. One of the Risk Management guides that can be used to improve critical information technology systems is the standard from NIST. The qualitative research design was applied in this study using interviews and questioners with company employees so that it could provide a solution to improve information systems to survive in business competition.

PAPER ID : 124

Title : The Effectiveness of Implementing Payment Gateway for Start-up Company for Transaction
Author : Siti Raftiana Putri, Tien F. Kusumasari and *Muharman Lubis
Email : muhamrmanlubis@telkomuniversity.ac.id

Abstract :
In this digital age, the process of exchanging information is become easier year after year, still the user should take precaution due to the huge information circulated that might confused or brought false information to the floor. There are also issues in term of the limited resources to verify and validate the information published by the media. According to Search and Rescue (SAR) survey data for every year, there is always a slight figure of accidents occurred due to the lack of preparation and information before climbing. Thus, this study develop Kudaki application to provide platform that present the information from community regarding every aspects related. It also verified and validated by the community voluntarily as the anticipation strategy to overcome the limited resource by the provider. In this research, business process planning and payment gateway implementation will be carried out to assist the financial transaction mechanism, which results as follower (1) Kudaki has optimal business process design based on unit and integration testing, and (2) Kudaki allow a payment gateway with a success rate of 100%.

PAPER ID : 125

Title : Prediction of Evaluation Result of E-learning Success Based on Student Activity Logs With Selection of Neural Network Attributes Base on PSO
Author : Elin Panca Saputra[1] , Supriatiningsih[2] , Indriyanti[3] , and Sugiono[4]
Email : elin.epa@bsi.ac.id

Abstract :
Evaluation of learning systems based on e-learning is very important to determine learning success. The purpose of this study is to obtain predictive results from evaluating students who follow e-learning based learning systems. The data used is the result of logs of student learning activities taken from the LMS. The data used in this study were 641 user logs of student activity. In predicting the evaluation results based on the learning system on e-learning we use a neural

network method based on swarm particle optimization. Neural Network has a problem in optimizing very large data so using swarm particle optimization can solve this problem. From the data testing we have done, the results obtained by the Neural Network method get an accuracy value of 95.47%, and the results of the AUC value of 97.90%. The observation of variables C, and population of Neural Network and particle swarm optimization use the K-Fold Cross Validation method. Then the researchers tested several choices on the attributes used. By using the Neural Network method based on the swarm particle optimization attribute, there are 9 predictor variables so that as many as 6 attributes are used, namely sports, chat, discussion, messages, Quiz exercises and total logs. The results show an accuracy rate higher than 97.50%, and an AUC value of 98.20%. So the accuracy value increased by 2.03% and the AUC increased by 0.3%. With accuracy and AUC values, the Artificial Neural Network algorithm based on particle optimization is very well categorized. Keywords : NN-PSO, Evaluation of E-learning, Student Aktivity Logs.

PAPER ID : 127

Title : Feature Dependent Na¨ıve Bayes For Network Intrusion Detection System
Author : Panny Agustia Rahayuningsih[1*] , Reza Maulana[2] , Windi Irmayani[3] , Dedi Saputra[4] , Deasy Purwaningtias[5]
Email : panny.par@bsi.ac.id

Abstract :
The intrusion detection system is an important component that performs the analysis for. the problem arising from the IDS is a collection of data sets in a computer network. to increase the high level and low false positive level of approach with the learning machine in applied. The data mining algorithm used is Na¨ıve bayes one of the most widely used algorithms in space due to its simplicity, efficiency and effectiveness. NB has high accuracy and speed when applied into the database with large data. However, the NB algorithm assumes independent attributes (free) and is very sensitive to the selection of many features that interfere with the performance or accuracy of the NB to be low but in practice, the possibilities of the feature are interrelated. The Feature Dependent Na¨ıve Bayes (FDNB) method is an effective method used to solve existing problems in NB by computing features as pairs and creating dependencies between each other as well as by applying learning models implemented to cross-validation, Feature Selection and data steps preprocessing that gives better accuracy results. After testing with two models of Na¨ıve bayes and FDNB, the results obtained from the Na¨ıve Bayes algorithm resulted in an accuracy of 84.42%, while for FDNB and oversampling (CFS + GS) the accuracy was 94.58%, FDNB and oversampling (CFS + BFS) the accuracy value of 94.69%, FDNB and SMOTE (CFS + GS) and FDNB and SMOTE (CFS + BFS) has an accuracy value of 93.27%. For the average per attack type DOS attack shows the highest result for its accuracy value of 97.86% and U2R attack produces the best accuracy when classifying U2R with 93.80% accuracy, U-F size of 96.26% U2R can be considered as a very result nice. Because U2R attack is considered very dangerous.

PAPER ID : 128

Title : The Classification Of Monster And Williams Pear Varieties Using K-Means Clustering And K-Nearest Neighbor (KNN) Algorithm
Author : Indarti[1*] , Novita Indriyani[2] , Arief Setya Budi[3] , Dewi Laraswati[4] , Wina Yusnaeni[5] , Arif Hidayat[6]
Email : indarti.ini@bsi.ac.id

Abstract :
Pear is a kind of fruits which has a lot of varieties. One of the way to differ pear varieties is by looking at the color, size and shape. This research is aimed at giving assistance to classify two varieties of pear i.e. Monster Pear and Williams Pear. In order to get the purpose, pear image processing is done to ease the classification process of pear varieties. Research method used consists of RGB Color Room to l*a*b, image segmentation, characteristics extraction with K-Means Clustering. Besides, K-Nearest Neighbor (KNN) is used to know the distribution and the classification. The use of practice data will increase the accuracy of pear varieties classification. The data used here are 88 pear images which cover 44 image practice data of Monster pear and 44 image practice data of Williams pear. Meanwhile, the test data taken are 10 images of each variety. The result of this research shows that the pear classification accuracy level is 95% which is very good.

PAPER ID : 129

Title : Improved Accuracy of Sentiment Analysis Movie Review Using Support Vector Machine Based Information Gain
Author : Reza Maulana[1*] , Panny Agustia Rahayuningsih[2] , Windi Irmayani[3] , Dedi Saputra[4] , Wanty Eka Jayanti[5]
Email : reza.rza@bsi.ac.id

Abstract :
The quality of a movie can be known from the opinions or reviews of previous audiences. This classification of reviews is grouped into positive opinions and negative opinions. One of the data mining algorithms that are most frequently used in research is the Support Vector Machine because it works well as a method of classifying text but has a very sensitive deficiency in the selection of features. The Information Gain method as feature selection can solve problems faster and more stable convergence levels. After testing on two movie review datasets are Cornell and Stanford datasets. The results obtained on the Cornell dataset is the Support Vector Machine algorithm to produce an accuracy of 83.05%, while for the Support Vector Machine based on Information Gain, the accuracy value is 85.65%. Increased accuracy reached 2.6%. Then, the results obtained on the Stanford dataset is the Support Vector Machine algorithm yields a value of 86.46%, while for the Support Vector Machine based on Information Gain, the accuracy value is 86.62%. Increased accuracy reached 0.166%. Support Vector Machine based Information Gain on the problem of movie review sentiment analysis proved to provide more accurate value.

PAPER ID : 130

Title : Comparison of Text Mining Classification Algorithms in Interbank Money Transfer Application

Author : Siti Masripah, Lila Dini Utami, Hilda Amalia,Dini Nurlaela , Muhammad Ryansayah, Lestari Yusuf
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Abstract:
Funds transfer is a series of orders from the sender whose purpose is to move money from the sender to the recipient. The high interbank transaction fees imposed on each bank makes people use an interbank money transfer application, interbank money transfer transactions such as the Flip application are much in demand by the public because there are no administrative fees imposed on users. Opinion of the users of the application is processed using a text mining classification algorithm, namely the Na¨ıve Bayes Algorithm and k-NN, the two algorithms are compared to produce which algorithm has high accuracy in processing the opinion of the flip money transfer application. Based on this matter, researchers conducted a sentiment analysis of the Flip Application,K-Nearest Neighbor (k-NN). After conducting research on sentiment analysis of Flip Applications, the Na¨ıve Bayes classification algorithm has an accuracy of 91.25% and an ROC curve with an AUC value of 0.500. Whereas K-Nearest Neighbor has an accuracy of 85.25% and an ROC curve with an AUC value of 0.937. The Na¨ıve Bayes algorithm can be said to be "good classification" and the public can make the decision to use the Flip Application.

PAPER ID : 131

Title : Determinant Analysis Of Financial Literacy Affecting Market Discipline Performance A Study On Internal Governance Aspects Of The Non Banking Financial Institution Customers In West Java, Indonesia

Author : A.Mukti Soma, Ina Primiana, Sudarso K. Wiryono, Erie Febrian
Email : muktisoma@gmail.com

Abstract:
Funds transfer is a series of orders from the sender whose purpose is to move money from the sender to the recipient. The high interbank transaction fees imposed on each bank makes people use an interbank money transfer application, interbank money transfer transactions such as the Flip application are much in demand by the public because there are no administrative fees imposed on users. Opinion of the users of the application is processed using a text mining classification algorithm, namely the Na¨ıve Bayes Algorithm and k-NN, the two algorithms are compared to produce which algorithm has high accuracy in processing the opinion of the flip money transfer application. Based on this matter, researchers conducted a sentiment analysis of the Flip Application,K-Nearest Neighbor (k-NN). After conducting research on sentiment analysis of Flip Applications, the Na¨ıve Bayes classification algorithm has an accuracy of 91.25% and an ROC curve with an AUC value of 0.500. Whereas K-Nearest Neighbor has an accuracy of 85.25% and an ROC curve with an AUC value of 0.937. The Na¨ıve Bayes algorithm can be said to be "good classification" and the public can make the decision to use the Flip Application.

PAPER ID : 133

Title : Performance Comparison and Optimized Algorithm Classification
Author : Dedi Saputra, Weishky Steven Dharmawan, Mochamad Wahyudi, Windi Irmayani, Juniato Sidauruk, Martias
Email : dedi.dst@bsi.ac.id

Abstract:
The current development of technology is quite rapidly not disengaged in a large data processor covering of all areas such as information technology, computer science, medicine,
finance and other. This brings a large computing effect in identifying the processing of data. In data analysis for very large data, data processing is very much needed, in this study the authors propose data mining method as a solution to a large data processing problem, data mining is divided into several techniques including classification method techniques that aims to classify large amounts of data to be relevant data information. In this study the authors compared 5 algorithms in the classification method to get better performance in classification problems. Researchers analyze and test 5 Algorithm classifications with 4 different datasets as a tool in the
problem of large data classification. .The results of this research show the method SVM is much better to be used 4 comparison methods in calculating the value of AUC by using 4 datasets of UCI Repository. The LSVT Dataset shows the highest AUC value with 0973, Ionsphere 0887, Sonar 0897, Heartstatlog 0868.

PAPER ID : 134

Title : Comparison of Data Mining Algorithms Using Artificial Neural Networks (ANN) and Naive Bayes for Preterm Birth Prediction
Author : Diah Puspitasari, Kresna Ramanda, Adi Supriyatna, Mochamad, Wahyudi, Erma Delima Sikumbang5∗, Sulaeman Hadi Sukmana
Email : erma@bsi.ac.id

Abstract:
Premature birth is still a big problem in Indonesia, in general, 15 million babies are born prematurely every year, more than 1 million babies die from complications due to premature birth.The main purpose of this study is to compare the Artificial Neural Network and Naive Bayes datamining algorithm models to predict preterm birth so as to obtain clinical evidence in preterm birth long before confinement so that sudden preterm birth can be converted to normal nativity. The model proposed in research on the prediction of preterm birth is by applying an Artificial Neural Network (ANN) algorithm and Naive Bayes algorithm. Where the two algorithms will be compared the level of accuracy and the value of the AUC against the prediction of preterm birth The results obtained that the prediction of preterm birth using the Artificial Neural Network (ANN) algorithm produces an accuracy value of 90.67% and an ROC value of 0.954. While the Naive Bayes algorithm produces an accuracy value of 84.53% and an ROC value of 0.929. For this reason, it can be concluded that the Artificial Neural Network (ANN) algorithm has a superior accuracy of 6.14% and 0.025 for its ROC value in predicting preterm birth.

PAPER ID: 135

Title: K-Means Algorithm for Clustering The Location Of Accident-Prone On The Highway
Author : Diah Puspitasari, Mochamad Wahyudi, Muhammad Rizaldi, Acmad Nurhadi, Kresna Ramanda, Sumanto
Email : kresna.kra@bsi.ac.id

Abstract:
In Indonesia, there is a highway which connects Jakarta and Bogor, some accidents have occurred at the highway every year. This paper aims to analyze the location of the accident to classify the high and low levels of accident vulnerability in the Jakarta Bogor Highway. First, the extracted data is then grouped based on some of the same characteristics in the dataset namely cause, location, minor injuries, serious injuries and death. Second, the grouping results are visualized in the form of highway maps that can help highway managers in identifying and evaluating several accident-prone points on Jakarta Bogor Highway. The method to be used in data processing in this study is the K-Means clustering algorithm which is expected to produce useful information for Jakarta Bogor Highway managers. The results of this study indicate that accidents that often occur are in cluster 3 with a total of 80 accidents and at least there are in cluster 2 with a total of 57 accidents, the location of accidents that often occurs in cluster 1 is in KM 24, while cluster 2 is in KM 41 and cluster 3 located at KM 10.6.

PAPER ID: 137

Title: Implementation Face Recognition Attendance Monitoring System for Lab Surveillance with Hash Encryption
Author : F Hamami, I A Dahlan , S W Prakosa, K F Somantri
Email: -

Abstract:
Face recognition (FR) is becoming popular to identify people. In fact, using the FR scheme, surveillance tasks can be built by recognizing people from their faces. This paper presents the implementation of face recognition as a biometric method for smart attendance as well as we also proposed the integrated scheme from capturing data from edge devices (CCTVs), treaming data to the dedicated server, then presenting the real-time data through android mobile devices. In this scheme, we proposed to employ deep learning algorithms based on the Convolutional Neural Network (CNN). Through the CCTV data streaming, faces are captured and matched with the database. Therefore, it is considered as their logging attendance. Furthermore, it is marked and stored into the database. This system prototype is developed by big data technology to tackle this complexity of data. The recognized faces can be monitored in real time monitoring. Eventually, real time reports are delivered through the web and android device with API after the data transmission is secured with hash encryption.

PAPER ID: 138

Title: Merger and Innovation to Improve Organization's Performance in Indonesia to Fight Industrial Revolution 4.0: Case study Merger Bank BTPN
Author : Diana Tambunan, Sugeng Wahyudi, and Harjum Muharam,
Email : diana.dtb@bsi.ac.id

Abstract:
An organization will conduct a merger strategy with companies that have strong technology to overcome the challenges of industrial transformation 4.0. In 2018 Bank BTPN merged with SMBCI with the hope of strengthening banking technology so that it could serve customers of various segments with various services throughout Indonesia.This research is a case study conducted at Bank BTPN which contributes to prove whether with merger, Bank BTPN's financial performance has improved. The method used is ratio analysis by comparing the financial performance of Bank BTPN before merger and after merger and the data obtained from the 2019 Annual Report and published financial statement 2020. The results showed that the merger strategy made Bank BTPN able to use assets, funding, and technology owned by SCMBI in innovating the digital banking business of Jenius banking products, BTPN Wow! and other banking products so that the post merger of Bank BTPN's financial performance has increased rapidly both in terms of assets to be the ninth largest in Indonesia, as well as a 41%increase in net profit to Rp 2.9 trillion in 2019. This research proposes the concept of businessmodel where merged bank should take five actions: 1) Innovation Business Digital Bangking,(2) Expansion of Customer Segmentation, (3) Diversification of Products / Market, (4) Quality of Human Resources, (5) Corporate Governance.

PAPER ID : 142

Title : The Effect of Satisfaction and Loyalty Towards Digital Payment System Users Among Generation Z in Yogyakarta Special Region.
Author : Diah Pradiatiningtyas S.E.,M.Sc., Chriswardana Bayu Dewa, S.E.,M.M., Lina Ayu Safitri S.E.,M.M., and Sri Kiswati S.T.,M.M.
Email : diah.ddt@bsi.ac.id

Abstract:
Two of the most popular digital wallet application companies in Indonesia are GoPay 80% and OVO 60%. To be able to survive in the midst of the intense competition in digital wallet applications, application companies must innovate marketing strategies that focus on consumers. Due to the use of digital wallets among the very large generation Z and increasingly intense competition in the business of digital payment applications, the authors examine the effect of user satisfaction and loyalty towards digital payments among generation Z (case study on Go-Pay and OVO users in Yogyakarta) . This research objective is to analyze the satisfaction and loyalty of digital payment system users among generation Z in Yogyakarta Special Region, so that the researchers can find out the influencing variable to empower the development of digital payment especially Ovo and Go Pay. The reseacrh methodology considered as descriptive research, in which the data collecting technique utilized Likert scale questionnaire and employed purposive sampling for selecting the sample. The data analysis applied multiple regressions. The result of the multiple regression testing shows that satisfaction and loyalty

affect the Zgeneration respondents using the digital payment with the indicators that the digital payment sounds more easy, cashless, and more benefit. Moreover, the usage of digital payment is easy to track small expenses.

PAPER ID : 143

Title : Identification of monogeneans parasite using gray level co-occurrence matrix and artificial neural network.
Author : Hikmatulloh, Dwiza Riana, Jamal Maulana Hudin, Susilawati, Dede Wintana, Sri Hadianti,
Email : hikmatul0808@bsi.ac.id

Abstract:
In this study 3 monogenic parasites were used, namely grandis, liewi,and johorensis. GLCM (Grey Level Co-occurrence Matrix) used in digital image processing toobtain feature extraction on images. ANN (Artificial Neural Network) used to classificationmongenean parasites based on features extracted. This research resulted overall accuracy of 86,67%. Studying monogenean parasites is needed because it is related to the health of fish that we need in our daily lives, so that this research can ease and assist the work of ecologists in classifying monogenean parasites more quickly and efficiently

PAPER ID : 145

Title : Villages Status Classification Analysis Involving K-Means Algorithm To Support Kementerian Desa Pembangunan Daerah Tertinggal dan Transmigrasi Work Programs
Author : Paska Marto Hasugian, Harvei Desmon Hutahaean, Bosker Sinaga, Sriadhi, Saranom Silaban
Email : paskamarto86@gmail.com

Abstract:
Data mining is a technique of extracting information that has not been known before in a collection of data in the database. Data mining has been applied in various fields that require extracting information, some of the work that can be generated with data mining is classification, prediction, and data grouping. In this study, ananalysis of village data collection was carried out to explore the potential or knowledge of the data that has been presented with the main objective of producing a grouping of village status. To support clustering or grouping activities the K-means algorithm used with the general process is to carry out the modeling process without supervision and is one of the methods for grouping data with a system partition, with the principle of allocating each data to the centroid or the closest average, work steps conducted in support of this research is to collect data related to the analysis of data grouping and proceed with the calculation process in accordance with the work steps of the K-means algorithm, the amount of data used as a test of 303 villages scattered in the old Padang regency. The results of calculations by displaying a new group of Cluster 0 is occupied by 120 villages, cluster 1 with a total data of 123 villages, Cluster 2 with a total of 6 villages, cluster 3 with a total of 33 villages while cluster 4 with a total of 21.

PAPER ID : 146

Title : Dynamic Model For Determining Disaster Evacuation Locations With Game Theory
Author : M. Safii ,Syahril Efendi, Muhammad Zarlis, Herman Mawengkang
Email : hmawengkang@yahoo.com

Abstract:
Disaster management can be grouped into three stages with several activities that can be carried out starting from pre-disaster, during emergency response and post-disaster. In the pre-disaster stage one of which is mitigation, which is a series of efforts to reduce disaster risk, both through physical development and awareness raising and capacity to face the threat of disaster.In mitigation one important factor is about evacuation. Evacuation locations in disaster transportation management are urgently needed for an effective evacuation process. Evacuation location determination is a benchmark in handling evacuation that can minimize the impact of losses from the disaster. To determine the evacuation location dynamically using game theory can solve the problem by providing several alternative locations by showing the dominant factor in the variables in the selection of the evacuation site. Game theory will use pure and mixed strategies to provide the most optimum choice of criteria. With this method will produce a decision support system to determine the optimal evacuation location or safe area in disaster mitigation

PAPER ID : 147

Title : Classification of Road Surface Quality Based on SVM Method
Author : Adhelinia Afenika1, P. H. Gunawan2;∗, D. Tarwidi Silaban
Email : adheliniaaf@student.telkomuniversity.ac.id

Abstract:
Damaged and potholes roads can occur due to rain puddles, too many heavy vehicles, poor asphalt quality, or maybe long road life. Damaged roads can hamper activities and endanger the safety of road users. It is necessary to monitor road quality periodically which is conducted by government, so that roads improvement can be done quick as possible. The aim of this study is to build a system that can classify roads surface quality. Support Vector Machine (SVM) classifications method is used to classify roads based on roadworthiness. In this study, 300 road surface data which contains good/smooth and damage quality of road are used. The simulation results show that SVM model can classify road surface data into two classes with average accuracy of 93%. The results can be a recommendation for government to prioritize which roads need to be improved.

PAPER ID : 148

Title : Analysis Of Seismic Hazard Prediction Using Non Parametric Conic Multivariate Adaptive Regression Splines (C-Mars) Methods
Author : Dadang Priyanto 1, Muhammad Zarlis 2∗ , Herman Mawengkang and Syahril Efendi
Email : dadangpriyanto@students.usu.ac.id

Abstract:
The data mining process requires a data set that can be used in determining a number of specific patterns to gain new knowledge. Large data sets (Big data) require special methods to get effective results. Included in this study are using big data related to the earthquake in Lombok. Earthquake research, especially in Lombok, is needed because Lombok is on three active plates in Indonesia, so that the danger of earthquake damage can be minimized. Earthquake data obtained from the Geophysical Station (BMKG) of Mataram has different characteristics and is complex, an appropriate method is needed, namely by detecting a non-parametric method with the Multivariate Adaptive Regression Spline (MARS). . The use of the backward stepwise algorithm with the Conical Quadratic Programming (CQP) framework of MARS, referred to as CMARS (Conic Multivariate Adaptive Regression Splines), is used for optimizing the results. The conclusions of this study are 1. A mathematical model with a total of 12 basis functions (BF) has contributed to the prediction analysis of the PGA dependent variable. 2. Contributions of the influence of independent variables on the PGA value are the epicenter distance (R_epi) of 100% and the Magnitude (Mw) of 31.08608% , while the temperature of the incident location (SUHU) of 5.48525% and depth (Depth) of 3,52988% . 3. Acquired areas that have earthquake hazard levels in the order of the most vulnerable are Malaka, Genggelang, Tegal Maja, Senggigi and Mangsit.

PAPER ID : 149

Title: Macroscopic Modelling of Pedestrian Flows Based on Conservation Law
Author: Finna Windyani1, P. H. Gunawan, Dede Tarwidi
Email: finnawindyani@student.telkomuniversity.ac.id

Abstract:
Overcrowded of sidewalks can reduce the level of satisfaction of pedestrians. The large crowd on the sidewalks results in slowing down time of the pedestrian to arrive in their destination. This studt, focuses on pedestrian flows modelling using the macroscopic model. Numerical approximation of the macroscopic model is formulated as scalar hyperbolic conservation laws. The Lax-Wendroff scheme is used to discretize the equation of conservation laws. The simulation results show that the numerical approximation in term of density confirms the exact solution. In this simulation, the velocity function is obtained by curve fitting of observation data using linear regression method. The observation data, which are consist of velocity-density relation, are obtained from observation of pedestrian flows. The study case of this research conducts on the sidewalks of Braga Street, Bandung, Indonesia. There are two velocity functions used in the simulation, i.e. $c1 = 0{:}58206 + -0{:}94476\rho$ and $c2 = 0{:}59926 + -0{:}78052\rho$, respectively. In performing the velocity function c2, the pedestrian leader position is approximately 1 meter in front of the pedestrian leader using the velocity function c1 at final time T = 20 seconds and T = 30 seconds. Overall, the numerical experiment shows that the pedestrian leader using the velocity functions c2 is faster than by using c1.

PAPER ID : 151

Title: Validate Scope Process Evaluation Based on PMBOK 6th Edition in Telecommunication Project
Author: Agustian Mauludin, Wawan Tripiawan, Achmad Fuad Bay
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Abstract:
Project scope management is a critical function in project management process. Any changes in scope will directly reflects change in cost, time and quality called triple constraint. The issue of triple constraint has been a common phenomenon resulting in project failure, becomes the greatest nightmare for construction companies since it may drag them to suffer a far greater loss. The ultimate phase of implementing scope management is to get formal acceptance of deliverables based on required requirement through validate scope process. Validate scope process help to manage only work required is completed align with it is objective and increases probability of final product, services or result. PT.XYZ is a construction company who owned several projects executed by partners. In this case one of responsibility of PT.XYZ is to perform acceptance test through validate scope process. As project owner, conducting high performance of scope validation is very crucial. To see the extent of the performance and effectiveness of validation process, an evaluation of the existing process is needed. One of the methods is by comparing the operational implementation in STTF project against the project management standard to ensure the process performed effectively. In this case, the comparison is designed based on standard process in PMBOK 6th editions using self-assessment survey questionnaires which distributed purposively to PMI representative respondent to verify research questions. The verified questions then distributed purposively to validate scope team in PT.XYZ for project STTF, location Kampung logi and Babakan Sari. At the end, the result of the research shows the implementation of validate scope process in project STTF is conformed with existing standards in PT. XYZ. But there are gaps between these project locations and standard practices in PMBOK. The existing standard does not use Requirement Traceability Matrix to assist the validation process and the lessons learned register performed only for input in validate scope process.

PAPER ID : 153

Title : Comparison of Naive Bayes Algorithm and Support Vector Machine using PSO Feature Selection for Sentiment Analysis on E-Wallet Review
Author : Dwi Andini Putri,Dinar Ajeng Kristiyanti, Elly Indrayuni, Acmad Nurhadi, and Denda Rinaldi Hadinata
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Abstract:
Cashless payment habits have been widely applied to the transportation system, restaurants and shops in the mall area. So, it is normal if the growth of mobile payment services is currently very rapid. The ease of doing transactions and promotional offers in the form of points and cashback in digital wallet applications (e-wallets) is very beneficial for its users. One of the most popular e-wallets is OVO. With so many reviews about OVO customer opinions on social

media, there has also been a lot of public opinion. These opinions can produce negative or positive statements. Sentiment analysis is the mining of opinions or text to classify opinions or user reviews, of a brand reviews, product reviews, or service reviews into the category of positive or negative opinion. The methods used in this research are Naive Bayes and SVM. Both of these algorithms are the best algorithms widely used in text classification research. However, both of these algorithms have weaknesses in several parameters. So, in this study Feature Selection is used to improve its performance. The evaluation was carried out using 10-fold cross validation Measurement accuracy is measured by confusion matrix and ROC curves. This study uses 500 positive reviews and 500 negative reviews as data training. The results of this study indicate that the use of PSO-based Naive Bayes algorithm produces an accuracy value of 93.10 percent with an AUC value of 0.750. While the results of research from the PSO-based SVM algorithm are 91.30 percent with an AUC value of 0.970. Based on these results the accuracy value generated by the Naive Bayes algorithm is classified as Fair Classification and SVM is classified as Excellent Classification. The AUC value generated by the Naive Bayes algorithm is also smaller than SVM. Therefore, in this study found that SVM is the best algorithm in classifying text.

PAPER ID: 154

Title: The Role of Team Creativity and Risk Management in Supports Startup Business Performance

Author: Ana Ramadhayanti, Pramelani, Devy Sofyanty,Rini Martiwi
Email: ana.rdx@bsi ac.id

Abstract:
Digital technology is now flourishing in society, more millennials to work as employees and prefer to become entrepreneurs, especially businesses that are trending with the term start-up. Business risk is something that cannot be ignored where management needs to consider what risks will occur so as not to have a systemic impact on the company, both short and long term. Besides the role of creativity and teamwork is also very necessary in managing this business, especially with the growing number of other startups selling products with the same system, market conditions are increasingly competitive so teamwork is needed to work together to provide ideas, build systems, networking to improve company performance. This study uses a qualitative method with interviews, kuessioner, and focus group discussions / FGD. Based on the results of the study indicate that the Role of Team Creativity and Risk Management in Supporting Startup Business Performance is very significant in driving business processes and company performance. This research was conducted by interviewing speakers who in this case are startups. The results of this study show that in supporting startup business performance, it is necessary to have the role of team creativity and risk management. This is a continuity that cannot be released.

PAPER ID : 155

Title : Implementation of Neural Network Method for Air Quality Forecasting in Jakarta Region

Author : Dinar Ajeng Kristiyanti, Esty Purwaningsih , Ela Nurelasari , Ahmad Al Kaafi , and Akhmad Hairul Umam

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Abstract:
The quality of air can be influenced by the amount of pollution that occurs in an area. The city of Jakarta is ranked in the top ten as the nation's capital with the worst air quality in the world. Poor air quality both inside and outside the room can have an impact on the emergence of various diseases and even death. For this reason, forecasting of air quality in the city of Jakarta, Indonesia is needed to anticipate the likely impact that will arise. In this study forecasting air quality using the neural network method in which this method has the advantage of being able to solve problems, especially large data samples and has been able to prove in handling non-linear problems. The data collection used is secondary data from the Environmental Service Office of DKI Jakarta Province as many as 2989 records with variables as determinants consisting of 5 of which PM10, SO2, CO, O3, NO2 and 1 output variable are good, moderate, unhealthy and very unhealthy. From the calculations result in this study it is known that the Neural Network method obtained an accuracy performance of 88.86% in which the Lubang Buaya area noted as the most unhealthy air quality.

PAPER ID : 156

Title : Sentiment Analysis Review Of Smartphones With Artificial Intelligent Camera Technology Using Naïve Bayes and n-gram Character Selection
Author : R Aulianita , LA Utami , N Musyaffa , G Wijaya , A Mukhayaroh , A Yoraeni
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Abstract:
Mobile has become a basic necessity at this time. Everyone certainly has a cellphone according to their daily needs. To capture connections and carry out various activities with just one hand. The object of this research is a review of smartphones that have the best artificial intelligent cameras. Data processing methods used in research using the Na¨ıve Bayes algorithm. Na¨ıve Bayes is known as one of the methods with the best classification accuracy results for text mining. The research objective is to facilitate customers who will buy a smartphone with the best AI camera without having to read product reviews. So that it can see based on the classification of positive text and label negative text classification. In this study, n-gram is used as a character selector to provide better accuracy results. Based on the results of research conducted, the accuracy of Na¨ıve Bayes results is 72.00%, then Na¨ıve Bayes with n-gram selection accuracy is N-gram = 2, 72.00% accuracy results, n-gram = 3, 75.00% accuracy results, and n-gram = 4 accuracy results 74.50%. In this study, carried out 10 times the experiment to measure the increased accuracy of the addition of n grams. Thu concluding that the application of the n-gram character can increase the accuracy of the Na¨ıve Bayes algorithm.

PAPER ID : 157

Title : Determination Wart Treatment Method Using Data Mining Technique
Author : Hilda Amalia, Yunita , Achmad Baroqah Pohan ,Ari Puspita , Ade Fitria Lestari , and Tri Retnasari
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Abstract:
Wart disease is a benign tumor that can grow on all parts of human skin. Although this wart disease belongs to a type of benign tumor, this wart disease can interfere with physical appearance and disturb the psychological sufferers if the infected part of the skin is the area around the face. This wart disease will also be very dangerous if there is infection in vital parts of the body such as the genitals. For treatment or treatment of wart harm, two methods are used: immunotherapy and cryotherapy. However, until now it is still unknown which treatment is better for patients with this wart disease. It has long been known that data mining is a method that is widely used in the health world to obtain valuable knowledge from medical data sets. Data Mining is used to classify and detect early diseases and choose the optimal type of treatment for warts. Data mining is able to find patterns and predict the trends of events. In this study four data mining methods will be used, namely the neural network, naive Bayes, SVM and K-NN. from the results of the study obtained the best method for processing the wart dataset is neural network

PAPER ID : 161

Title : Development of Fuzzy Analytic Hierarchy Process (F-AHP) For The Selection Of Alternative New Product Development Ideas In Coconut Downstream Agroindustry
Author : S Wardah ∗ , and T Baidawi
Email: sitiwardahst@yahoo.co.id

Abstract:
Downstream coconut agro-industry can increase added value, strengthen industrial structure, grow industrial population, provide employment, create business opportunities, and improve the national economy. The low level of downstream coconut agro-industry is due to the low development of new products that are key to long-term agro-industry. One important success step in developing new products is making the right decision in choosing a new product development idea. The choice of ideas is important to reduce risk in various uncertainties and market conditions. Based on this, this research aims to develop the Fuzzy Analytic Hierarchy Process (F-AHP) method for selecting the right idea to develop new products so that the downstream coconut agro-industry can develop. To achieve this goal, we use the F-AHP pproach with an expert con?dence level of 0.5. From this approach, the results are obtained that the critical criteria are product speci?city, product superiority, product safety, product demand trends, the number of similar industries at the national level and the number of similar industries at the international level with alternative ideas for new product development are coconut meat, coconut shell coconut water towards the food industry and coconut ?ber towards the transportation industry

PAPER ID : 162

Title : Elaboration Factors of Success in The Application of Community-Based Solid Waste Management and Composting Technology
Author : Ana Ramadhayanti , Nurhidayati , Imelda Sari ,Taat Kuspriyono
Email : ana.rdx@bsi ac.id

Abstract:
This study aims to describe the elaboration of success factors in community-based waste management in Waste Bank and composting technology in Flamboyan Indah RW 05 Kelurahan Rawa Badak Selatan, Koja in 2020. This study uses descriptive qualitative methods using primary data to become research objects in RW 05, Desa Rawa Badak Selatan and secondary data from sources and literature. We conduct field studies, including observations and interviews. Koja area is an area with a high population increase accompanied by an increase in organic and inorganic waste. This condition requires community involvement to help manage and reduce waste by processing waste directly from the source. The action taken is to divide the two forms of garbage, inorganic waste is processed by the Community-Based Waste Management System (CBSWM) or waste bank and organic waste with composting technology. Composting technology uses a fermentation process in it. The results of this study concluded that the successful implementation of the CBSWM system and composting technology invited active community involvement by providing economic benefits. But on the other hand this system has weaknesses such as limited land and economies of scale that have not made it possible for technology investments that require large funds.

PAPER ID: 163

Title: Motorized Vehicle Security System With Master And Slave Key Models
Author: Sriyadi, Maruloh , Mochamad Nandi Susila , Andriansah ,Imam Nawawi , Meiva Eka Sri Sulistyawati , Sufi Alawiyah
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Abstract:
Indonesian are carrying out routines both for personal gain, groups can use a variety of transportation in land, sea and air. Kinds of transportation that are available in the middle of the community that is affordable to have, are vehicles both two-wheeled and four-wheeled. The tendency of motorized vehicles to increase due to various factors including more economical compared to other transportation, simplify and speed up the duration of the trip, encourage the economy of the motorcycle taxi online or traditional. In the midst of people enjoying transportation, there are threats made by certain elements who take advantage of the owner's carelessness and of course the security weaknesses of the vehicle. The threat that occurs is motor vehicle thief. Based on data from the Central Statistics Agency for motor vehicle theft in Indonesia in January 2016 was 3,468 cases, February 3,595 cases, March 3,518 cases), meaning that in 2016 for three months as many as 10,581 people were disadvantaged because of the crimes. Di era industrial revolution 4.0 marked the massive implementation of information technology in all fields including transportation. Collaboration of information technology with the field of automation, in this case the workshop can create new innovations in securing motor vehicles so that they are not vulnerable to deception. The innovation is SIKEMO, works based on inputs known by the sensor, if the sensor recognizes the input data, the process can be continued and the motor can be used (starter is on status), and vice versa if the sensor does not recognize the input data, then SIKEMO will reject and of course the vehicle cannot be used (starter in the off status). The Security System developed at SIKEMO uses data input with two models, namely the master key and the slave key. The master key input data has the highest authority besides being recognized by SIKEMO, the master key can be used to grant access rights to the slave key to be recognized by the SIKEMO security system. To support the work

of SIKEMO which is equipped with a master and slave key, some hardware including Arduino which is programmed to select whether the input data is known or not. RFID as a sensor media that connects the input data (master and slave key) with Arduino. To integrate the existing hardware and software in SIKEMO, the process uses a prototype software development methodology

PAPER ID : 164

Title : E-Learning for English for Business-Based Podcast: One of Learning Solutions Amid the Pandemic of COVID-19

Author : Aloysius Rangga Aditya Nalendra , Retno Rahayuningsih, Yanti Rosalinah, Ibnu Subroto , Ary Iswanto Wibowo, Fera Nelfianti
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Abstract:
This research used qualitative methods of descriptive where information was required directly and where time and resources were limited. It was designed to investigate whether e-learning podcast-based could be used in learning to listen in English for students of the University of Bina Sarana Informatika Management Study program. This research used samples that are 6 classes as a source of research data with the 2nd-semester students who came from Management study program. The number of 1 average class consisted of 20-25 students. Researchers used the Android-based Anchor Application as a podcast maker as well as Google Classroom as an E-Learning learning medium. To collect data, researchers used observations, interviews, and documentation. Interviews were conducted by giving 25 questions through online based on theoretical approaches related to this study with 90 sample data. Researchers used test instruments with pre-test and post-test as research instruments. This research was focused on the use of ICT in the learning process by way of e-learning Podcasts based. The novelty of this research is this study used a different target and numbers of the target from the previous studies, namely Management Program Students who only get Basic English teaching during lectures. As a result of this research was the use of podcasts more effective than e- learning without using the media podcast, characterized by a grade average result of 76.05 after Post tests were done.

PAPER ID : 168

Title : Implementation Of The Lab Rotation Model In Blended Learning Based On Student Perspectives

Author : Miftah Farid Adiwisastra ,Yani Sri Mulyani, Tuti Alawiyah, Taufik Wibisono, Iqbal Dzulfikar Iskandar , and Dini Silvi Purnia
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Abstract:
The use of digital technology requires the world of education to transform digital so that students are increasingly in demand. One of them is Islamic Boarding School education which metamorphoses by providing education that is not only oriented towards religious knowledge but broader in the mission of improving the quality of human resources to be able to face a wider real life in accordance with challenges of the times. Various learning methods are applied in order to be able to balance and develop. One of them is the use of the Blended learning

method, which is a learning method that combines technology-based learning and information with classroom or face-to-face learning. Combining learning or combining face-to- face, distance learning, and e learning. To implement the method, a study was conducted at the Darul Muta'allimin Islamic Boarding School Middle School to see students' perceptions The blended learning model used is the lab rotation model. The results of research students' perceptions of learning using the blended learning method get a positive response with a value of 65% agree because it provides motivation for students to study hard and is very helpful in learning and the material provided is easy to understand.

PAPER ID : 169

Title : The Analysis of Digital Provider Sentiment Of 'by.u' On Google Play Which Uses The Support Vector Machine (SVM) Method
Author : Angga Ardiansyah , Sopian Aji , Dany Pratmanto, Sandra Jamu Kuryanti , Octa Pratama Putra , and Cep Adiwihardja
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Abstract:
The development of technology in the industrial revolution 4.0 is very rapid in various sectors in trade, communication and other sectors; both nationally and internationally. One of the fields, it is the telecommunications sector. Becoming one of the digital based providers of 'by.u' from Telkomsel which is the first digital operator in Indonesia. The algorithm testing uses Support Vector Machine (SVM) from 300 user review data applications. The 'by.u' review consists of 150 negative reviews; which refers to dislike or bad expressions. Next, 150 positive reviews; which refers the constructive suggestion or support the text in using Indonesian. The resulting model gets the results of testing accuracy by using Support Vector Machine with accuracy value shows that: 87.24

PAPER ID : 171
Title : Data mining for cryptocurrencies price prediction
Author : Haerul Fatah[1],Recha Abriana Anggraini[2],Deddy Supriadi[3], Melisa Winda Pertiwi[4],Ai Ilah Warnilah5,Nurul Ichsan[6]
Email : aerul.hef@bsi.ac.id

Abstract:
Electronic payments is something that is currently in high demand by investors today, but transactions are often constrained due to various problems, especially from third parties. For this reason, cryptocurrency emerged, which is one of the solutions for conducting electronic payment transactions. Some types of cryptocurrency that are most in demand by investors are bitcoin, ethereum, and ripple. The fuctuation value of cryptocurrency is very difficult to predict so that investors often experience losses when making transactions. This study aims to predict cryptocurrency prices such as bitcoin, ethereum and ripple using data mining algorithms. The data mining algorithm used in this prediction process is K-NN, Neural Network, SVM, Linear Regression, Random Forest and Decision Tree. Data mining modeling is done by dividing the dataset into each type of commodity and then analyzed using each
algorithm. The results of this study indicate that the accuracy value obtained from some data mining algorithms is good enough to predict cryptocurrency prices.

PAPER ID : 174

Title : Chinese Identity in God Temple's Birthday Ceremony as a Form of Social Network

Author : Celerina Dewi Hartati1, Gustini Wijayanti2, Hin Goan Gunawan3, Yulie Neila, Chandra4
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Abstract:
This study aims to show a form of Chinese social network in the form of a god's temple birthday ceremony. This ceremony shows a form of social group identity as Chinese people in which shows a concept of social networks. This research is ethnographic research, with the case of a god's temple birthday ceremony. Data obtained through interviews with the temple administrator, and observations during the preparation and the day of the god's temple birthday ceremony. The result is the god's temple's birthday ceremony is a tradition that is maintained by the Chinese so as not to disappear and become an identity as a Chinese. The tradition is transmitted from time to time from one place to another place through a social network. This social network which is formed comes from a network between the temples as an institution that has the same main god. Ceremony as a tradition is taught from generation to generation, demonstrated, and trusted. The ceremony was held in order to maintain a relationship with the past with the ancestors and preserve the social group identity.

PAPER ID : 177

Title : Production Risk with Feasible Generalized Least Square

Author : 1Kanis Fatama Ferdushi, 2Md Kamrul Hossain, 3*Anton Abdulbasah Kamil.
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Abstract:
This study investigates production risk. A multistage stratified random sampling technique was adopted to select sampling unit. In between Cobb Douglas and Linear quadratic model, the linear quadratic model had been picked through feasible generalized least square method. The numerical model, we utilize the information from rice cultivating in Bangladesh. The results show that uneven socioeconomic and farm-specific inputs are creating risk in rice production. Input variables such as area, labour, and fertilizer and managerial factors, for example, experience, schooling, contact with extension, training, natural calamity, member and status indicated a significant impact on rice productions uncertainty. This indicated that both input and managerial factors were important for the rice production

PAPER ID : 182

Title : Employee Performance Appraisal Using Decision Support System By AHP and TOPSIS Methods

Author : Achmad Baroqah Pohan, Sofian Wira Hadi, Syaifur Rahmatullah , Robi Aziz Zuama, Achmad Rifai, Deni Gunawan
Email : -

Abstract:
During this time the performance appraisal of PT. Injep Inti Cemerlang has not been implemented optimally, especially in employee performance appraisal. Performance appraisal so far is only determined from the results, there are no clear appraisal criteria. Based on this reason, a decision support system is needed to help find the best alternative for the employees selection. In this research a decision support system for employee performance appraisal will be developed based on Attitude, Responsibility, Attendance, Discipline and Collaboration. This research aims to design a decision support system for employee performance appraisal using data collection methods by observation, interviews and giving questionnaires to employees of PT. Injep Inti Cemerlang. The data collected is carried out the process of analyzing data and looking for weighting values using the AHP method and for ranking using the TOPSIS method, where each criterion is appraisal factors and alternatives in this case employees are compared the criteria that have been weighted through the process of calculating the AHP and TOPSIS method starting from giving the weighting of criteria by calculating with Ms. Excel and calculating with Expert Choice software. The results have been obtained from weighting the next ranking by the TOPSIS method. thus providing a value output that results in a system that employees appraisal. This decision support system helps the employee performance apprasial at PT. Injep Inti Cemerlang in determining the employee who has the best performance.

PAPER ID : 183

Title : Implementation of Government Regulation No.46 Year of 2013 and No.23 Year of 2018 For Small and Medium Enterprises of Bandung City (Case Study of Small and Medium Enterprises in Bandung City)
Author : Eka Dyah Setyaningsih , Hartanti, Vera Agustina Yanti, Ratiyah, and Sumanto
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Abstract:
This study aims to analyze the growth of turnover from the three types of businesses in the elds of convection, food processing, and study, by comparing the application of the UMKM tax calculation based on PP No 46 of 2013 and PP No 23 of 2018. The sampling technique uses unproportioned stratied random sampling and is carried out in December 2018 until June 2019. Data analysis in this study uses descriptive qualitative analysis by socializing the UMKM tax calculation with the most recent simple calculation following government regulations, which is 0.5% of turnover which was previously 1% of turnover. The results showed in Bandung Regency, namely the type of convection business with the highest turnover of Rp.3,000,000,000 and the lowest is Rp. 960,000,000; type of food processing business, the highest turnover is Rp. 600,000,000, and the lowest is Rp. 132,000. 000, -; and by the type of handicraft business with the highest turnover of Rp. 600,000,000 and the lowest Rp. 96,000,000 By using PP 46 of 2013 with a turnover rate of 1% per year, updated to PP 23 of 2018 at a rate of 0.5% per year, through this policy it has been generated that UMKM entrepreneurs will be lighter with payment of a 0.5% tax rate to be able to stimulate UMKM trepreneurs to continue working and building new innovations in their industrial business. Related to this pandemicperiod for SMEs in Bandung regency still lacking understanding of UMKM tax incentives, from the Directorate General of Central and Regional Taxes to make publications and socialization eorts so that people follow this opportunity

PAPER ID : 187

Title : Comparation of K-Nearest Neighboor (K-NN) and Naive Bayes Algorithm for the Classication of the Poor in Recipients of Social Assistance
Author : Elly Firasari, Nurul Khasanah, Umi Khultsum, Desiana Nur Kholifah,Rachman Komarudin and, Wiwiek Widyastuty
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Abstract:
Poverty is a problems faced by developing countries, as well as Indonesia. According to data from the Central Statistics Agency in 2018, more than half the stribution of the poor population in Indonesia is in Java, which is 13,340.15 million people. Somokerto village is one of the villages in the district of Magelang, Central Java, which receives government assistance in an eort to educe poverty. But in the process of classifying citizens who are entitled to receive assistance is still done manually. Manual classification is considered inaccurate in obtaining the results of social assistance ecipients. In overcoming this problem, we need a systematic calculation to get accurate results. In this case, the researcher uses data mining classification calculation by comparing 2 calculation methods, namely K-NN and Naive Bayes. The reseachers use Rapidminer tools. The research stages are identication of problems, data collection, implementation K-NN, Implementation Naive bayes, data testing process to produce accuracy and compare the result. The results obtained are the accuracy of Naive Bayes higher than K-NN, namely Naive Bayes 89.04% and K-NN 87.67%. This gure is classied in the category of good classification. From the results of the study it can be concluded the Naive Bayes algorithm is suitable to be applied in the calculation of recipients of social assistance.

PAPER ID : 189

Title : Application of Simple Additive Weighting Method in the Selection of Achievement Employees
Author : Tya Septiani Nurfauzia Koeswara, Yoseph Tajul Arifin, Asriyani Sagianto, Widarti, Sopiyan Dalis, and Rizky Ade Safitri
Email : tya.tsf@bsi.ac.id

Abstract:
The quality of human resources is one of the supporting factors to increase the productivity of a company. High competent human resources can support the level of performance, with assessments that will improve the performance of every employee, this makes it easier for institutions to consider in determining the best mployees. In this research, it will be discussed about alternatives in conducting employees at PT. Tata Makmur Sejahtera, which will be produced as a reference for company leaders. Sampling taken by the company as many as 5 people based on data provided by the company, which will be calculated based on 6 variables, namely: discipline, cooperation, responsibility, honesty, target achievement and work approval,then the data will be used for reimbursement using costs Simple Additive Weighting (SAW) method. Based on test results and calculations using Simple Additive Weighting (SAW) the highest value of the 5 employees amounted to 0.85 on behalf of Cecep Kurnia.

PAPER ID : 191

Title : Detecting Alzheimer's Disease by The Decision Tree Methods Based On Particle Swarm Optimization
Author : R A Saputra, C Agustina,D Puspitasari, R Ramanda, Warjiyono, D Pribadi Lisnawanty, K Indriani
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Abstract:
In this study aims to determine the classification of Alzheimer's disease, this disease is a dangerous disease that can eliminate memory loss and can even result in a loss of ability to remember. For this reason, early detection of this disease is needed so that it can prepare for medical treatment. In this study the proposed method is to compare several decision tree methods with feature or attribute selection using the Particle Swarm Optimization (PSO) algorithm with the Alzheimer OASIS 2 dataset: Longitudinal Data from kaggle.com. The results of experiments with ten-fold cross validation, by testing the decision tree algorithm before the feature or attribute selection is performed, the highest accuracy value is obtained from the random forest algorithm with a value of 91.15%. The feature selection process is carried out using the PSO algorithm and the experiment is repeated using the Decision tree, the PSO-based random forest algorithm has the highest accuracy value of 93.56% with a kappa value of 0.884. Feature or attribute selection using the PSO algorithm is proven to be able to improve the accuracy of the decision tree algorithm, and is included in the algorithm with a very good range of values.

PAPER ID : 194

Title : E-Wallet Sentiment Analysis Using Naive Bayes and Support Vector Machine Algorithm
Author : Dinar Ajeng Kristiyanti, Dwi Andini Putri, Elly Indrayuni, Acmad Nurhadi, and Akhmad Hairul Umam
Email : dinar@nusamandiri.ac.id

Abstract:
Nowadays most of consumers in urban areas are accustomed to using digital wallets. The habit of transaction in cashless has been widely applied to the transportation system, restaurants and shops in the mall or supermarket. Apart of the ease of conducting ransactions, various promotions in the form of points and cashback oered from various digital wallet application developers or e-wallets have become very attractive to users. One of the most widely used e-wallets by the public is OVO and DANA. This phenomena encourages researchers to do a research and make it as an object of study due to both are widely discussed by various groups, especially in the capital of Jakarta lately. As it is used, many customers write product and service reviews based on their experience on the Google Play store. Sentiment analysis is a technique that can find the right solution in creating a system that can automatically analyse these reviews and extract information that is most relevant to users. Researchers collected OVO and DANA review data on the Google Play store with a total of 2000 datasets. In this study, researchers compared the two algorithms namely Na• ve Bayes and Support Vector Machine (SVM). The stages carried out in this study are data collection, initial data processing, modelling with the chosen method, experimental & model testing as well as evaluation and

validation of result. Evaluation is carried out using 10 Fold Cross Validation. The result showed that OVO is the most popular e-wallet application by the public with an accuracy measurement using the Confusion Matrix reaching 91.00% for the SVM algorithm. The ROC curve showed the best AUC result of 0.986 (Excellent Classification).

PAPER ID : 195

Title : Sentiment Analysis of Online Transportation Service using the Naive Bayes Methods
Author : Tika Adilah M, Hendra Supendar, Rahayu Ningsih, Sri Muryani, and Kusmayanti Solecha
Email : 14002364@nusamandiri.ac.id

Abstract:
Sentiment analysis is a computational study of opinions and emotions expressed textually. Sentiment analysis will group text in sentences or documents to find out the opinions expressed in the sentence or document, whether negative or positive. This sentiment analysis research was conducted on the online taxi transportation service. Gojek uses a lot of social media to communicate with its customers, one of the social media used is Instagram. This research takes 1000 comments from the Instagram of the Gojek page which is used to see the public opinion of the online Gojek transportation services. Comments from the page are processed by doing text preprocessing and then classified using the Naive Bayes Classifler (NBC) method to obtain the value of the public value for online transportation services. The results of this study using the Naive Bayes method resulted in an accuracy value of 81.00%, which means that from all the comments on the Instagram page, the subject of the NBC method could be accurately classified by 81.00% whether the comments were negative or positive comments.

PAPER ID : 196

Title : Rice Leaf Disease Image Classifications Using KNN Based On GLCM Feature Extraction
Author : R A Saputr, Suharyanto, S Wasiyant, D F Saefudin, A Supriyatna1,A Wibowo
Email : rizal.rga@bsi.ac.id

Abstract:
The disease that often occurs in rice leaves which causes crop failure. At present the attack of pests or leaf diseases in countries where the majority of rice as the main food of the community, especially in Indonesia is increasing. Early detection mechanism to reduce the risk of crop failure is very necessary. Data mining classification methods for the past few years have been very popular to be used in detecting the classification of rice leaf disease. Our paper uses 120 images of rice leaf disease from the UCI repository. The purpose of this study was to determine how to classify images of rice leaf disease consisting of three diseases namely Bacterial leaf blight, Brown spot, and Leaf smut. The study proposes the GLCM method as feature extraction for text analysis, with five feature values consisting of contrast, energy,entropy, homogeneity, and correlation. KNN (K-Nearest Neighbor) algorithm is used for the classification of rice leaf disease, by finding the maximum k value from the experiment k value 1 to 20. The results of

our experiments show that the value of k = 11 has the highest accuracy value compared to other k values of 65.83% and kappa 0.485.

PAPER ID : 198

Title: The Effect of Price, Product Quality and Customer Service Toward Customer Satisfaction on Online
Author : Idah Yuniasih, Slamet Heri Winarno, Ida Zuniarti, and Sofyan Marwansyah
Email : idah.idy@bsi.ac.id

Abstract:
Customer satisfaction is an inseparable part of the company's business goals. It can be said that achieving customer satisfaction is the core of every business besides profit. COVID-19 pandemic has changed the way people buy goods online. Research is needed to assess the level of satisfaction of online purchasing habits. This study aims to explore how to price, product quality, and service affects customer satisfaction when making online purchases.The sample of respondents was determined as many as 110 scattered in the Jakarta and Bekasi areas, Indonesia which indeed had the habit of buying online during the COVID-19 pandemic. This study uses structural equation modeling (SEM) and path analysis to test the level of influence of the variables used. The results showed that customer satisfaction when making online purchases was significantly influenced by price, product quality, and service. This phenomenon opens up opportunities for business ventures to shift the system of selling goods online, taking into account the terms of price, quality, and services provided.

PAPER ID : 199

Title : Designing Face Recognition Teacher Wellbeing Application that Optimizes Teacher's Quality Work Life
Author : Unifah Rosyidi, Sasmoko, Yasinta Indrianti, Sonya Rapinta Manalu, Ramot Lubis, Jurike Moniaga, Abu Yazid bin Abu Bakar
Email : sasmoko@binus.edu, yasintaindrinti@gmail.com

Abstract:
Meeting the demands of industry 4.0, teachers are required to improve the quality of their profession. Quality professions will not be achieved if the teacher does not have a quality person and at the same time prosperous. By utilizing technological developments, the teacher can monitor and diagnose the condition of the self wellbeing on an ongoing basis, so as to optimize the quality of work life. Teacher's Quality Work Life is very important for teachers themselves as educators, institutions and the nation and state. Quality work life can be a measure of teacher growth vertically and horizontally along with the growth of the institution. The encounter of Education, psychological trait with Artificial Intelligence is called Positive Education is the main objective of this research. One form is a self diagnostic that is able to diagnose psychological conditions to produce optimal quality. This research aims to create an application face recognition design through Neuroresearch and Waterfall research methods. The results of the study were designed to build the Face Recognition Teacher Wellbeing application.

PAPER ID : 200

Title : Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher
Author : Tuti Alawiyah, Agung Baitul Hikmah, Wildan Wiguna, Mira Kusmira, Herlan Sutisna, and Bambang Kelana Simpony
Email : tuti.tah@bsi.ac.id

Abstract:
Hill cipher is a cryptographic algorithm that uses matrix as a key by utilizing modulo operations. The key matrix used is usually made randomly as a square matrix. In this study, a key matrix was created using the Playfair Cipher algorithm as a rectangular matrix.The use of the Playfair Cipher algorithm makes it easy for users to remember key matrices, while remaining safe when distributed. Beside the key matrix security, use of a rectangular key matrix produces a longer and more complicated ciphertext to find the linear equation.

PAPER ID : 201

Title : Entrepreneurial Mindfulness Based on Artificial Intelligence
Author : Yasinta Indrianti, Sasmoko, Nor Fadila Mohd Amin, Sucianna Ghadati, Rabiha, Nugroho Juli Setiadi, Agustinus Dedy Handrimurtjahjo, Muktiono, Waspodo
Email: -
Abstract:
The ability to self-diagnose to build capacity as an entrepreneur is something that is important in order to bridge the development of self-competence needed in the industrial era 4.0. This ability is expected to bring up a condition in which a person has full active awareness of the awakening of the entrepreneurial spirit within himself to then produce a productive person called Entrepreneurial Mindfulness. This study aims to develop self-detection tools about Entrepreneurial Mindfulness through an artificial intelligence-based website for students and alumni who are entrepreneurs. The research method used is the Neuroresearch method for developing Entrepreneurial Mindfulness measurement tools and the waterfall method for developing Artificial Intelligence-based websites. The results of research in the form of an Artificial Intelligence-based website about Entrepreneurial Mindfulness where the website will be able to provide profiling based on diagnoses made related to the level of Entrepreneurial Mindfulness owned by students and alumni in implementing entrepreneurial practices.

PAPER ID : 205

Title : An Analysis and Measurement of Website Quality Using WebQual 4.0 and Importance Performance Analysis (IPA) Method (A Case Study of Kemiriamba Village Brebes)
Author : Husni Faqih1, Warjiyono2, Fiola Kuhon3, Sopian Aji4, Angga Ardiansyah5, Fandhilah6
Email : husni.hnf@bsi.ac.id

Abstract:
Based on the Law of the Republic of Indonesia number 6/2016 regarding villages, it is said that regional governments are obliged to develop village information systems in implementing e-

government towards good governance. In Indonesia, e-government continues to increase in number, but it is not accompanied by quality, including the Kemiriamba Village website. This study was aimed to measure the quality of the Kemiriamba Village website using the Webqual 4.0 method and Importance Performance Analysis (IPA) with 4 (four) instruments, namely Usability Quality, Information Quality, Service Interaction Quality and Visual Quality. This study is descriptive with a quantitative approach. The questionnaire data were 132 and were processed with SPSS software. The results of the analysis and measurement stated that the suitability level of the Kemiriamba Village website was 96.63%, and the average value of the gap was negative, which was -0.11, which meant that the performance level of the Kemiriamba Village website still did not meet user satisfaction and expectations, especially in Service Interaction Quality. The main priority that needs to be corrected and improved immediately is the website attribute; it should have a good reputation. Moreover, the questions, suggestions and complaints need to be processed as promised. The results of this study suggested the Kemiriamba Village website to immediately make improvements and development in order to become a qualified website towards good governance.

PAPER ID : 207

Title : Identification and Detection Odontoglossum ringspot virus on Native Orchids Collection of Nurserys in Java, Indonesia
Author : Mahfut
Email : mahfut.mipa@fmipa.unila.ac.id

Abstract:
Nature orchid are one of original floral in Indonesia. Virus infection is one of the limiting factor in the cultivation of orchid. Infection Odontoglossum ringspot virus (ORSV) was reported infets native orchids collection in Indonesia. The purpose of this study was to identification and ORSV that infects native orchid nurserys collection in Java, Indonesia. Symptomatic samples were collected from 5 nurserys collections, i.e. Rumah Bunga Rizal (Bandung), Bali Tanaman Hias (Cianjur), Borobudur Orchids Center Magelang), Kebun Anggrek Bungarinte (Yogyakarta), and Titi Orchids (Yogyakarta). Detection and identification was conducted by serological test using ORSV specific antisera, RT-PCR and DNA sequencing. The serological test using ORSV antisera showed that 3 of 11 sampels reacted positively against ORSV antiserum i.e Phalaenopsis amabilis (Cianjur.1, Cianjur.2, and Magelang). RT-PCR of the 3 samples using specific primer of ORSV coat protein (CP) gene amplified a DNA with size ± 474 bp. Homology analysis of those 3 Indonesian isolates showed highest index similiarity (IS) was 99.8% with corresponding sequences from 10 other ORSV isolates. Phylogenetic analysis showed that ORSV Cianjur.1 and Cianjur.2 isolates clustered in separated group far from ORSV isolates in other countries.

PAPER ID : 208

Title : Identification of Disease and Efforts to Protect Native Orchid Plants Against Bacteria Infection in Liwa Botanical Garden
Author : Mahfut, Anggi Anggreiny, Sri Wahyuningsih, Tundjung Tripeni, Handayani, Sukimin

Email : mahfut.mipa@fmipa.unila.ac.id

Abstract:
Liwa Botanical Garden is located in West Lampung Regency and is one of the conservation of ornamental plants that presents the rich flora of the Bukit Barisan Selatan National Park. One of the flagship collections of this botanical garden is a natural orchid. Until now, disease infections are still a major obstacle in efforts to preserve and develop the potential of natural orchids. Based on previous research, it is known that several individual orchid collections from Liwa Botanical Garden show symptoms of bacterial infection. This pathogen will infect orchids and cause soft rot disease. This research was conducted to determine the identification of diseases and efforts to protect natural orchids against bacterial infections in the Liwa Botanical Garden through a collection of samples that showed symptoms of infection, analysis of disease symptoms, and analysis of disease resistance levels. The results showed that the response of the natural orchids of Liwa Botanical Garden to bacterial infections was to show symptoms of soft rot disease, i.e Bulbophyllum sp., Dendrobium crumenatum, Dendrobium montanum, Pholidota sp., and Vanilla sp. The type of orchid that shows the most symptoms of bacterial infection is Vanilla sp. 11 samples, and Pholidota sp. and Dendrobium crumenatum with 3 samples each. The type of orchid that shows the most symptoms is Flickingeria sp. a total of 8 samples. The natural type of the Liwa Botanical Garden which is most susceptible to bacterial infections is Pholidota sp. and Vanilla sp. with disease intensity of 10% and 7.7%. The results of this activity are expected to be basic information in efforts to protect plants against diseases to support the application of conservation of natural orchids in Liwa Botanical Garden.

PAPER ID : 209

Title : The Implementation of the MFEP (Multi Factor Evaluation Process) Method In Determining the Learning Model

Author : Ai Ilah Warnilah,Dini Silvi Purnia,Miftah Farid Adiwisastra,Herlan Sutisna,Ratningsih,Rian Ardianto
Email : ai.aiw@bsi.ac.id

Abstract:
The success of every generation of children is the hope of the success of the education world. The role of educators especially teachers has an important role in achieving the success of their students then a teacher must have a strategy in developing the learning system. A system approach is needed by using specific learning models , in order to help the teacher design the learning system. With the selection of the right learning model is one of the factors that support the success of the learning system. One factor of student achievement is less than the maximum is the application of learning models that are not appropriate, the selection of learning models still using manual systems makes the learning models applied less precise and appropriate. The purpose of this study is to determine the decision support system in determining learning models including cooperative learning models, problem based learning models, contextual learning models, Direct learning models, with the aim to assist teachers in determining the appropriate learning model to be applied in teaching and learning activities. The method applied is using the MFEP (Multi Factor Evaluation Process) method.,by determining and giving subjective / intuitive assessments on factors / criteria that are very influential on indicators / alternatives and ranking systems to find out the alternative with the highest value. The results of this study

cooperative learning models are highly recommended in the learning process in determining the level of success of students with a value of 6.18.

PAPER ID : 210

Title : Expert System Of Syzygium Aqueum Disease Diagnose Using Bayes Method
Author : Agus Junaidi, Nurmala Dewi, Taufik Baidawi, Sarifah Agustiani, Yoseph Tajul Arifin, and Hengki Tamando Sihotang
Email : agus.asj@bsi.ac.id

Abstract:
This research examines how to design an application of an expert system to diagnose Syzygium aqueum (burm.f.alston) plant diseases so that it is easier to detect diseases in the Syzygium aqueum (burm.f.alston) plants. This study uses the Bayes method to be more precise because it is based on the probability value of disease symptoms that arise in Syzygium aqueum (burm.f.alston) plants. In this research, the authors used a web-based application with the Bayes method. The results or outputs from this application provide the probability value of disease certainty and then the hypothesis is chosen with the largest value.

PAPER ID : 211

Title : Using Certainty Factor Method To Determine Work Commitment Generation Y
Author : Syahrul Fahri1, Hasanul Fahmi2, Jijon Raphita Sagala3, Yuda Perwira3, Yessy F A Lubis4, Nurjamiyah5, Mufida Khairani6
Email : syahrulfahri1991@gmail.com

Abstract:
At present, in the world of work there are three generations that color the workforce, namely baby boomers born in 1943-1960, generation X 1961-1979 and generation Y 1980-1994. Generation Y is an individual born in the development of information technology and a high level of education so that Generation Y is very achievement-oriented, hard-working and will strive to achieve success but Generation Y has a tendency to move around at work, lack of work commitment so that this causes companies to experience difficulties in determining the performance commitment of generation Y if this continues it will have an impact on the sustainability of a company, so we need a certainty factor method to determine the work commitment of generation Y. from research that has been done by taking one sample by applying the certainty factor method produced that one of the Y generation has a commitment to the feeling of love in an organization that raises the willingness to stay and foster social relationships and appreciate the value of relationships with the organization because it has become a member or ganisasi (Affective commitment).

PAPER ID : 212

Title : Study of underwater topography change with measurement and analysis
Author : Satoshi Iwakami1, Masahiko Tamega1, Masahide Sanada1, Michiaki Mohri1, Yoshitaka Iwakami1, Shuji Jimbo2, Masaji Watanabe3
Email : watan-m@okayama-u.ac.jp

Abstract:
Techniques developed in previous studies were applied to positional data and depth data concerning underwater topography of a reservoir. The Gauss-Krüger projection was applied to horizontal coordinates of positional data. The horizontal coordinates and the vertical coordinate yielded a curve in an underwater topography. A surface containing the curve was obtained by a fixed point iteration. Numerical results for two time periods were compared.

PAPER ID : 213

Title : Design and Implementation of Rivest Shamir Adleman's (RSA) Cryptography Algorithm in Text File Data Security
Author : Hengki Tamando Sihotang[1], Syahril Efendi[2], Elvyawati M Zamzami[3], Herman Mawengkang[4]
Email : hengki_tamando@yahoo.com

Abstract:
Security of data text file on a computer can be done by utilizing encryption and decryption techniques. One technique is encryption and decryption of data encryption system text file with cryptography. Cryptography is the science or art to randomize and secure the message to avoid the manipulation of data by performing encryption and decryption on the data of the text file. Cryptographic algorithm consists of several types of one example is the algorithm Rivest Shamir Adleman (RSA). The RSA algorithm is one of asymmetric cryptography technique ie riptografi modern technique that has two keys of the public key used for encryption and a private key techniques to make the process deskripsi. The purpose of this research is to design and implement RSA cryptography algorithm on text file data security. The results of this design is a dekstop based software. This research is expected to provide benefits to the users, individually as well for other organizations.

PAPER ID : 214

Title : Implementation Of Data Mining In Grouping Percentage Of Blind Letters Age 15+ By Province Using K-Means Algorithm
Author : Saifullah1, Nani Hidayati2, Solikhun3
Email : saifullah@amiktunasbangsa.ac.id

Abstract:
Data Mining is a method that is often needed in large-scale data processing, so data mining has important access to the fields of life including industry, finance, weather, science and technology. In data mining techniques there are methods that can be used, namely classification,

clustering, regression, variable selection, and market basket analysis. Illiteracy is one of the factors that hinder the quality of human resources. One of the fundamental things that must be fulfilled to improve the quality of human resources is the eradication of illiteracy among the community. The purpose of this research is to determine the clustering of illiterate communities. The results of the study are illiterate data clustering according to the age proportion of 15+, namely 1 node of the high group, the low group has 23 nodes, and the medium group of 10 nodes. The results of this study become input for the government to determine illiteracy eradication policies in Indonesia based on provinces

PAPER ID: 215

Title: Hybrid approximation for solutions of high-order integrodifferential equations including variable delay
Author: Burcu Gürbüz
Email: burcugrbz@gmail.com

Abstract:
In this study, a numerical technique with hybrid approximation is developed for solving high-order linear integro-differential equations including variable delay under the initial conditions. These type of problems are of applications in mathematical physics, mechanics, natural sciences, electronics and computer science. The aim of this work is to investigate an approximation with the matrix forms of Taylor and Laguerre polynomials along with standard collocation points. By the reduction of the solution of this problem with regard to the matrix relations, the solution of a system of algebraic equations has been obtained. The usefulness of this algorithm has been demonstrated by numerical experiments together with an error analysis technique.

PAPER ID: 216

Title: Causal Loop Diagram (Cld) Model In Planning A Sustainable Smart Sharia Tourism
Author: Husain, Muhammad Zarlis, Herman Mawengkang, Syahril Efendi
Email: Husain@students.usu.ac.id

Abstract:
The development of sustainable tourism such as dynamic and complex smart sharia tourism consists of many interrelated and diverse components of stakeholders, which each has different management objectives, which can trigger unexpected conflicts among stakeholders. Regarding the dynamic and complex challenges in the field of developing sustainable tourism, the ability of identidying is really needed. For this reason, it is necessary to see further what are the factors that influence the plan for implementing sharia tourism intelligently and the strategies needed and analyze the relationship of dynamic causes of these factors using approachment methods which use the Causal Loop Diagram system (CLD)). The purpose of this research is to get a solution to overcome conflicts among stakeholders through approachment system with the Causal Loop Diagram (CLD) model.

PAPER ID: 217

Title: A New Framework of Feature Selection Approach for Sentiment Analysis
Author: Mochmad Wahyudi, Muhammad Zarlis, Herman Mawengkang, and Syahril Efendi
Email: mochamad.wahyudi@students.usu.ac.id

Abstract:
Undoubtedly that the huge business data could make data analysis becomes more complicated such that the decision-making process would be out of reach. This condition happens. In the fields of consumer buying behavior, A well-known method called sentiment analysis can help in extracting information about the up-to-date trends and is able to increase market value of product through improving its quality. One of the approaches in solving the sentiment analysis is feature selection technique. However, this technique contains a combinatorial behavior and the analysis of the huge data can experience uncertainty parameter. This paper describes a framework for solving the sentiment analysis based on feature selection approach using a stochastic combinatorial programming.

PAPER ID: 218

Title**: User satisfaction of covid19 Kota Bogor website using webqual 4.0 A**
Author: Andrian, S R Cakrawijaya, D Riana, N Palasara, A Riyandi, I Rusdi
Email: dwiza@nusamandiri.ac.id
Abstract:
Nowadays E-Government has a huge impact on supporting and running governments around the world. And a government site is a tool for interacting between the government and its citizens. Recent studies have shown that the quality of the website becomes something that the government mandatory. This research examines the overall quality of the website Covid19 Bogor City. Using the Webqual methodology to assess the quality of the website and to see how the Bogor city government maintains the expectations of its citizens or users. From a three-dimensional variable that has been given by webqual and from 119 respondents as a sample of this research, the author finds that all three variables have significant results for the satisfied citizens or users with certain aspects of the facilities, contents, and menus of the website. Majority respondents who have accessed and using the website of Bogor City Covid19 satisfied with the facilities.

PAPER ID: 219

Title: Application and Manual Encryption Process with The Combination Algorithm of One Time Pad and Vigenere Cipher
Author: Siti Julianita Siregar, Muhammad Zarlis, Zakarias Situmorang
Email: sitijuliantasiregar@students.usu.ac.id

Abstract:
Cryptography is a branch of science which study art or a way to secure an information in order to that information becomes incomprehensible to third parties who does not have the authority. The intention of cryptography also serves as multiple aspects in information security such as

confidentiality, data integrity, authentication, and nonrepudiation. One of the things that be done to maintain the safety of information, is by encrypting the message to disguise the original message so that third parties will not be able decipher it in the event of an interception. Therefore, in order to secure the information, by encrypting the key using a different key technique is generally done with combining two algorithms which is One Time Pad with random key generator and Vigenere cipher using XOR and XNOR. The encryption process result from One Time Pad algorithm are cipherteks while the Vigenere Cipher algorithm is the XOR cipherkey and XNOR cipherkey.

PAPER ID: 220

Title: Analysis of Perceptron Quantum Artificial Neural Networks to Classify the Feasibility of Prospective Debtors
Author: Lise Pujiastuti,Mochamad Wahyudi, and Solikhun
Email: lisepujiastuti@antarbangsa.ac.id

Abstract:
Bank is a business entity whose activities are collecting funds from the public in the form of deposits and channeling them to the public in the form of loans or other forms to improve the lives of many people. This study aims to classify the feasibility data of prospective borrowers with the perceptron algorithm using quantum computing to facilitate the bank in determining the prospective debtor. The results of this study are an analysis of the feasibility of prospective borrowers using the perceptron algorithm with quantum computing.

PAPER ID: 223

Title: A Decision-Making Framework for Determinants of an Organization's Readiness for Drone Technologies Adoption
Author: Sadia Samar Ali
Email: ssaali@kau.edu.sa

Abstract:
In order to transport customers' request economically, such as, goods, meals etc it is frequently Increased use of UAVs has generated interest in the scope of its applications in alternate fields motivating organizations to integrate these smart flying robots in their systems. Looking at the significant rise in drone usage in diversied fields of industrial operations, organization must capture on its value for competetive advantage and outreach to vast customer community.Theoretical foundations of TOE and DOI are taken along with expert opinion to identify the determinants of an organizations readiness for the adoption of drone in their systems. A multi-criteria decision analysis method, the Best Worst Method (BWM) is applied here to evaluate and priortize the determinants of drone adoption. The results depict cost parameters of technology, competiton, trading partners, advantage and top management as strong supporters of the adoption. The complexity and compatibility along with customer perception and regulations need more considerations for effective results. This study offers valuable insights to practitioners as well as future researchers regarding soft dimensions of

drone adoption and navigates them to work on their operational and industrial environemnt to derive maximum benefits.

PAPER ID: 224

Title: Generalized Reduced Gradient Approach for Solving Periodic Heterogeneous Vehicle Routing Problem with Side Constraints
Author: Herman Mawengkang, Sutarman
Email: hmawengkang@yahoo.com

Abstract:
In order to transport customers' request economically, such as, goods, meals etc it is frequently the delivery company depend on a model which is called vehicle routing problem (VRP). This model consists of a customer population with deterministic demands, and a central station which acts as the base of a set of vehicles. The purpose is to design the vehicle routes starting and terminating at the assigned central station, such that the customer demands is met, within a time windows This paper develops an optimization model for the management of periodic deliveries of a given commodity. Due to the geographic location of customers the company requires to have diverse type of vehicles with diverse capacity to serve the commodity for customers. This kind of problem is called Periodic Heterogeneous Vehicle Routing Problem (PHVRP). The purpose is to schedule periodically the deliveries according to feasible combinations of delivery days and to determine the scheduling of fleet and driver and routing policies of the vehicles. The aim is to minimize the total costs of all routes over the planning horizon. We propose a combined approach of reduced gradient and heuristic algorithm to solve the problem..

PAPER ID: 225

Title: Similarity Approach Based to Customer Behavior for Trade Business Metrics
Author: Marischa Elveny, Mahyuddin KM Nasution, Muhammad Zarlis, Elviawaty Muisa Zamzami
Email: marischaelveny@usu.ac.id

Abstract:
Data mining is a process of mining data in very large amounts of data. The purpose of this data mining is to extract and identify data for the sake of certain information related to a large database. Merchant's a seller of goods / services that has a business entity (physical store) and online store that cooperates with the bank in providing payment receipt services via the e-money of the bank concerned. To find user behavior based on competing merchants, the similarity of several objects is needed. Similarity involves the process of characterizing each object or describing in detail the features of the object. In the process it produces the naming and weighting of the characteristics of objects so as to provide a way to measure their similarity. The way is determined by placing a comparison of what is the same and what is different from the two objects. The results achieved in the form of similarity methods to look for customer behavior in a competitive merchant.

PAPER ID: 226

Title: Identification of Diabetic Retinopathy with Retinal Fundus Imagery Using Probabilistic Neural Network
Author: M Elveny, T Anjulina, B Siregar, R Syah
Email: marischaelveny@usu.ac.id

Abstract:
Diabetic retinopathy is a microvascular complication of diabetes mellitus that attacks blood vessels in the retina. The main characteristics of diabetic retinopathy are microaneurysm, retinal haemorrhages, exudates, and neovascularization. One of the methods used to diagnose diabetic retinopathy is by examining the retinal fundus image. The examination is still done manually by an ophthalmologist. Manual examination requires a high level or concentration and misidentification may occur because some diabetic retinopathy characteristics are difficult to see directly, so it is needed a method that can facilitate the ophthalmologist in making decisions to identify diabetic retinopathy. The method proposed in this research is Probabilistic Neural Network to identify diabetes retinopathy. Before the identification stage is carried out, the retinal image will go through the pre-processing stage in the form of resize, green channel, contrast stretching and feature extraction using the Gray Level Co-Occurrence Matrix. After testing in this research, it was concluded that the proposed method was able to identify diabetes retinopathy with an accuracy of 86.8%.

PAPER ID: 228

Title: Expert System For Detection Glaucoma Disease Using Certainty Factor Method
Author: SM Hardi1m, F P Surbakti , Elviwani
Email: vani.hardi@usu.ac.id

Abstract:
Glaucoma is an eye disease that attacks nerves of human eye and it’s often not realized by sufferer until further damage to the eye nerve occurs. Glaucoma is second most common cause of permanent blindness according to Indonesian Ministry of Health. Permanent blindness caused by glaucoma can be avoided by early detection of disease and appropriate regular treatment. Early detection needed in an effort to prevent glaucoma can be done using an expert system. Expert system is an artificial intelligence program that can make reasoning and thinking like an expert in a particular field. Expert systems with certainty factor methods can describe level of certainty of expert expressions such as possible, most likely, and almost certain. Thus everyone can use an expert system to do glaucoma examination. In this research, diagnosis results will be obtained in the form of a percentage of a person's CF value for glaucoma which is calculated using the certainty factor method based on the CF value of the symptoms entered by the user. Based on results of tests conducted, there are 8 out of 9 case data that are in accordance with the results of expert system diagnosis using certainty factor method that has been built. In other words, expert system has 90% accuracy in diagnosing glaucoma.

PAPER ID: 229

Title: Expert System for Diagnosing Osteoarthritis with Fuzzy Tsukamoto Method.
Author: S M Hardi , A Triwiyono, Amalia
Email: vani.hardi@usu.ac.id

Abstract:
Indonesia is a country that have a population of approximately 264 million. Statistics from the Journal of Osteoarthritis in South-East Asia in 2014 showed that 35% of Indonesia's population aged 60 years or older in Indonesia suffer from Osteoarthritis. Osteoarthritis is a degenerative joint disease involving the cartilage, the lining of the joints, ligaments, and bones, causing pain and stiffness in the joints that suffer from these symptoms. People often ignore pain that occurs when moving the shoulder, plate, knee and hand pain when it has great potential are the symptoms of the disease Osteoarthritis. Expert systems can be used as a system to identify disease Osteoarthritis. With Osteoarthritis disease diagnosis expert system then expected to help people to detect diseases early Osteoarthritis and can consult with a doctor before continuing to a more dangerous stage. In this research using Fuzzy Tsukamoto Algorithm method, which method is an extension of the reasoning Tsukamoto monotonous, every consequent formed IFThen rules should be presented with a fuzzy set. As a result, output inference of each rule is given explicitly by predicate. Result is obtained by using a weighted average (center average defuzzifier). Symptoms of Osteoarthritis serve as fuzzy values which will then be sorted according to a predetermined membership function. After fuzzy value of the calculation has been obtained, then fuzzy value will be converted into firm value using a weighted average. From these results it can be concluded that the accuracy of the expert system that has been built to have an accuracy of 90% that is 18 of the 20 patients who had been tested using an expert system that has been built.

PAPER ID: 230

Title: Taxonomy Genetic Algorithm For Implementation Partially Mapped Crossover In Travelling Salesman Problem
Author: Sri Melvani Hardi, Muhammad Zarlis, Syahril Effendi, Maya Silvi Lydia
Email: vani.hardi@usu.ac.id

Abstract:
Genetic algorithm has various stages are carried out to get optimal results in solving the problem of traveling salesman problem. By describing the taxonomy in genetic algorithm, it can avoid confusion in understanding the various classifications that exist in the genetic algorithm operator. Partially mapped crossover is part of the taxonomy of genetic algorithms whose implementations can be applied in a variety of problem solving including in the travelling salesman problem


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Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

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Abstract. Hill cipher is a cryptographic algorithm that uses matrix as a key by utilizing modulo operations. The key matrix used is usually made randomly as a square matrix. In this study, a key matrix was created using the Playfair Cipher algorithm as a rectangular matrix. The use of the Playfair Cipher algorithm makes it easy for users to remember key matrices, while remaining safe when distributed. Beside the key matrix security, use of a rectangular key matrix produces a longer and more complicated ciphertext to find the linear equation.

1. Introduction

Current technology makes it easy for us to exchange data, but this is also accompanied by the ease of others to access / retrieve data exchanged. Therefore, the need for effective data security is a must to protect the data being exchanged. Cryptography is widely used to protect data so that it cannot be read by other parties.

Various cryptographic algorithms have been developed at this time, one of which is hill cipher cryptography. The hill cipher cryptographic algorithm uses matrix and modulo operations to produce ciphertext that is difficult and difficult to solve by cryptanalysts. The use of matrix keys in hill cipher cryptography continues to grow. Various techniques are used in determining key matrix to improve data security systems in this algorithm. Alawiyah (2017) proposed a binary tree visit operation inserted at the beginning of the encryption process, as well as the use of a rectangular matrix key. The resulting ciphertext is complicated enough to be solved by cryptanalysts because it is difficult to find the linear equation [1].

In the other research has been proposed combines Elliptic Curve Cryptosystem with Hill Cipher (ECCHC) for image encryption technique [2]. Also there are a research for applying matrix shared as a secret key and a non-singular matrix G is used as a public key [3].

Determination and key secrecy in cryptography is very important, according to Kerckhoffs's principle that the cipher method "must not be required to be secret, and it must be able to fall into the hands of the enemy without inconvenience" [4].

Ashraf have proposed modifying the hill cipher algorithm using three stages. Each stage is considered a block cipher with a block length of 128 bits and a key length of 256 bits. The key is taken from a random number generator and provides better security [5]. In Mahendra's research, the determination of key matrix is made using the playfair cipher. But the matrix

made is a square matrix. This is unique and innovative because it facilitates the determination of key matrix that play an important role in the encryption process and the description process of Hill Cipher [6].

In this research, playfair cipher will be used to determine the rectangular matrix key. Based on the results of research hidayat, the use of rectangular matrix key is safer than square matrix, because the ciphertext produced is longer than the plaintext, making it difficult for cryptanalyst to find their linear equations [7].

2. Method

The key matrix used in hill cipher cryptography is an inverse matrix. In this study the key matrix that will be used is a rectangular matrix which must have an pseudo-inverse. If the key matrix determination is usually made randomly, then in this study the key matrix will be obtained from the ciphertext generated from the playfair cipher algorithm.

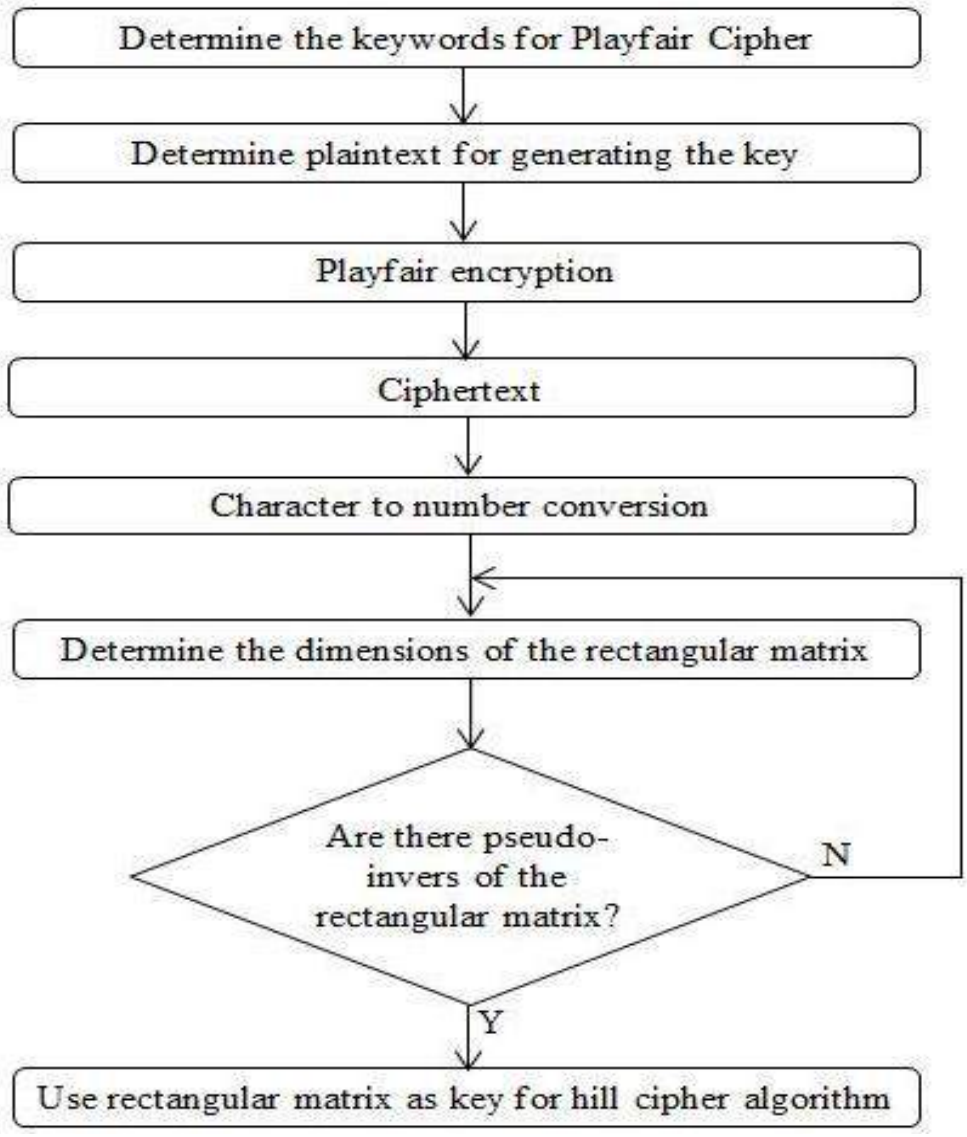

Figure 1. Generation of rectangular matrix key for hill cipher

The encryption process is done by checking the shape of a rectangular matrix key. if the rectangular matrix key has a full column rank, the encryption process uses equations C = KP mod 95. But if the rectangular matrix key has full row rank, then the encryption process uses equations C= PK mod 95 as illustrated in figure 2

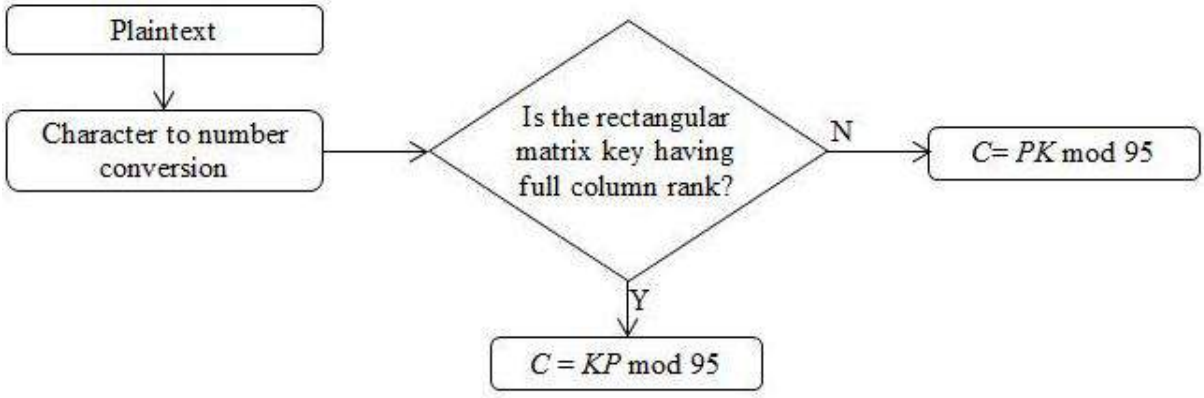

Figure 2. Hill cipher encryption and decryption method

3. Result and Discussion

In the hill cipher algorithm, the process starts with key matrix initialization. Usually key matrix are generated randomly. But in this study the matrix key will be built from the encryption using the Playfair Cipher algorithm. The process starts with creating keywords, for example "rainbow". Then arrange keywords in the matrix by completing letters of the alphabet that are not yet listed in the keywords.

$$\begin{bmatrix} R & A & I & N & B \\ O & W & C & D & E \\ F & G & H & K & L \\ M & P & Q & S & T \\ U & V & X & Y & Z \end{bmatrix} \rightarrow \begin{bmatrix} R & A & I & N & B & R \\ O & W & C & D & E & O \\ F & G & H & K & L & F \\ M & P & Q & S & T & M \\ U & V & X & Y & Z & U \\ R & A & I & N & B & \end{bmatrix}$$

Determine the plaintext for generating the key, example "research report". By using the playfair cipher algorithm it is obtained ciphertext "BO TD IA HQ BO MW BM" and it's corresponding numeral alphabets value is 2 15 20 4 9 1 8 17 2 15 13 23 2 13 with length is 14. Suppose the key rectangular matrix K_{2x7}

$$K = \begin{bmatrix} 2 & 15 & 20 & 4 & 9 & 1 & 8 \\ 17 & 2 & 15 & 13 & 23 & 2 & 13 \end{bmatrix} \text{ with pseudo invers } K^1 = \begin{bmatrix} 35 & 38 \\ 29 & 4 \\ 90 & 25 \\ 93 & 4 \\ 8 & 69 \\ 2 & 51 \\ 60 & 72 \end{bmatrix}$$

If the rectangular matrix chosen does not have a pseudo-inverse matrix, we should get another dimension of rectangular matrix till we get the rectangular matrix that have a pseudo-invers. The rectangular matrix with pseudo-invers can be used as rectangular matrix key for hill cipher algorithm if eligible as:

(i) $KK^{-1}K = K$
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The rectangular matrix K is eligible as key matrix for hill cipher algorithm. For example, the plaintext P to be encrypted is "secret message". In this research, hill cipher algorithm using modulus operations 95, let the plaintext conversion into numeric form as on table 1.

Table 1. Character to number correspondence

Char	Value	Char	Value	Char	Value	Char	Value	Char	Value
A	0	T	19	m	38	5	57	}	76
B	1	U	20	n	39	6	58	\	77
C	2	V	21	o	40	7	59	|	78
D	3	W	22	p	41	8	60	‘	79
E	4	X	23	q	42	9	61	∼	80
F	5	Y	24	r	43	spasi	62	!	81
G	6	Z	25	s	44	,	63	@	82
H	7	a	26	t	45	<	64	#	83
I	8	b	27	u	46	.	65	$	84
J	9	c	28	v	47	>	66	%	85
K	10	d	29	w	48	/	67	∧	86
L	11	e	30	x	49	?	68	&	87
M	12	f	31	y	50	;	69	*	88
N	13	g	32	z	51	:	70	(	89
O	14	h	33	0	52	’	71	)	90
P	15	i	34	1	53	”	72	-	91
Q	16	j	35	2	54	[	73	_	92
R	17	k	36	3	55	{	74	=	93
S	18	l	37	4	56	]	75	+	94

The plaintext P "Secret message" corresponding with "18 30 28 43 30 45 62 38 30 44 44 26 32 30" Because the rectangular matrix key is full row ranks, To encrypt P using C = PK mod 95, and partition P into several matrix with each element 2 like the number of rectangular matrix key rows.

$$C_1 = \begin{bmatrix}18 & 30\end{bmatrix} = \begin{bmatrix}2 & 15 & 20 & 4 & 9 & 1 & 8\\ 17 & 2 & 15 & 13 & 23 & 2 & 13\end{bmatrix} mod(95) = \begin{bmatrix}71 & 45 & 50 & 82 & 92 & 78 & 59\end{bmatrix}$$

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To decrypt C using P = C K-1 mod 95

$$P_1 = \begin{bmatrix}71 & 45 & 50 & 82 & 92 & 78 & 59\end{bmatrix} \begin{bmatrix}35 & 38\\ 29 & 4\\ 90 & 25\\ 93 & 4\\ 8 & 69\\ 2 & 51\\ 60 & 72\end{bmatrix} mod(95) = \begin{bmatrix}18 & 30\end{bmatrix}$$

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4. Conclusions

Playfair cipher algorithm can simplify the making of rectangular matrix keys. This will make it easier to remember and distribute the keys used in the hill cipher algorithm. The use of a rectangular matrix key also disguises the message because the ciphertext produced is longer and more random. This will complicate the cryptanalyst in finding the ciphertext linear equation with its matrix key.

References

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Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

Tuti Alawiyah[1]*, Agung Baitul Hikmah[1], Wildan Wiguna[1], Mira Kusmira[2], Herlan Sutisna[1], Bambang Kelana Simpony[1]

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Abstract. Hill cipher is a cryptographic algorithm that uses matrix as a key by utilizing modulo operations. The key matrix used is usually made randomly as a square matrix. In this study, a key matrix was created using the Playfair Cipher algorithm as a rectangular matrix. The use of the Playfair Cipher algorithm makes it easy for users to remember key matrices, while remaining safe when distributed. Beside the key matrix security, use of a rectangular key matrix produces a longer and more complicated ciphertext to find the linear equation.

1. Introduction

Current technology makes it easy for us to exchange data, but this is also accompanied by the ease of others to access / retrieve data exchanged. Therefore, the need for effective data security is a must to protect the data being exchanged. Cryptography is widely used to protect data so that it cannot be read by other parties.

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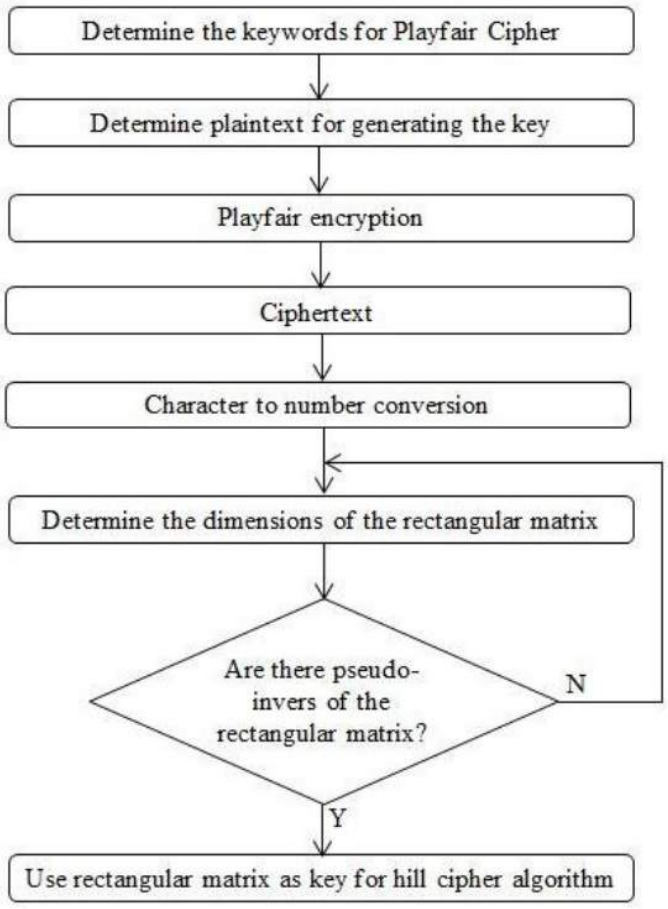

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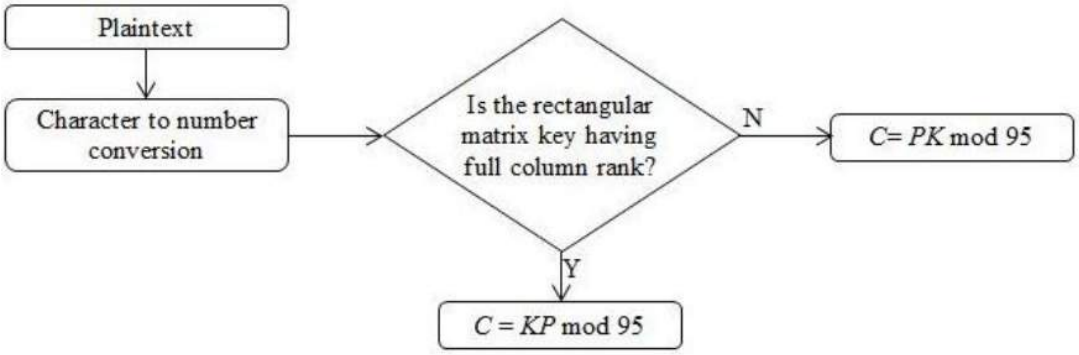

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References

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4842/B.01/LPPM-UBSI/XI/2020

Tentang

PENELITIAN YANG DIPUBLIKASIKAN DALAM PROSIDING INTERNATIONAL
Periode September 2020 - Februari 2021

Menulis Pada Journal of Physics : Conference Series 1641 - 012014 24 November 2020
ICAISD 2020 (IOP Publishing doi:10.1088/1742-6596/1641/1/012014)

Judul :

Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

Menimbang :
1. Bahwa perlu di adakan pelaksanaan Seminar dalam rangka Seminar.
2. Untuk keperluan tersebut, pada butir 1 (satu) di atas, maka perlu dibentuk Pemakalah Seminar.

MEMUTUSKAN

Pertama : Menugaskan kepada saudara yang tercantum sebagai Pemakalah

Agung Baitul Hikmah S.Kom, M.Kom

Kedua : Mempunyai tugas sbb:
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Ketiga : Keputusan ini berlaku sejak tanggal ditetapkan, dengan ketentuan apabila dikemudian hari terdapata kekeliruan akan diubah dan diperbaiki sebagaimana mestinya.

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- Ybs

SURAT TUGAS

308/B.01/PPPM-NM/III/2020

Tentang

PENELITIAN YANG DIPUBLIKASIKAN DALAM PROSIDING
Periode Maret â€“ Agustus 2020

Menulis pada International Conference on Advance Information Scientific Development (ICAISD), 6 Agustus 2020

Judul :

Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

Menimbang :
1. Bahwa perlu di adakan pelaksanaan Seminar dalam rangka Seminar.
2. Untuk keperluan tersebut, pada butir 1 (satu) di atas, maka perlu dibentuk Penulis Seminar.

MEMUTUSKAN

Pertama : Menugaskan kepada saudara yang tercantum sebagai Penulis

Mira Kusmira S.T. M.Kom

Kedua : Mempunyai tugas sbb:
Melaksanakan Tugas yang diberikan dengan penuh rasa tanggung jawab.

Ketiga : Keputusan ini berlaku sejak tanggal ditetapkan, dengan ketentuan apabila dikemudian hari terdapata kekeliruan akan diubah dan diperbaiki sebagaimana mestinya.

Jakarta,2 Maret 2020
Ketua PPPM
Sekolah Tinggi Manajemen Informatika dan Komputer Nusa Mandiri

Norma Yunita, M.Kom

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4841/B.01/LPPM-UBSI/XI/2020

Tentang

PENELITIAN YANG DIPUBLIKASIKAN DALAM PROSIDING INTERNATIONAL
Periode September 2020 - Februari 2021

Menulis Pada Journal of Physics : Conference Series 1641 - 012014 24 November 2020
ICAISD 2020 (IOP Publishing doi:10.1088/1742-6596/1641/1/012014)

Judul :

Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

Menimbang :
1. Bahwa perlu di adakan pelaksanaan Seminar dalam rangka Seminar.
2. Untuk keperluan tersebut, pada butir 1 (satu) di atas, maka perlu dibentuk Pemakalah Seminar.

MEMUTUSKAN

Pertama : Menugaskan kepada saudara yang tercantum sebagai Pemakalah

Tuti Alawiyah S.T, M.Kom

Kedua : Mempunyai tugas sbb:
Melaksanakan Tugas yang diberikan dengan penuh rasa tanggung jawab.

Ketiga : Keputusan ini berlaku sejak tanggal ditetapkan, dengan ketentuan apabila dikemudian hari terdapata kekeliruan akan diubah dan diperbaiki sebagaimana mestinya.

Jakarta,3 November 2020
LPPM Universitas Bina Sarana Informatika
Ketua

Taufik Baidawi, M.Kom

Tembusan
- Rektor Universitas Bina Sarana Informatika
- Arsip
- Ybs

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AUTHOR

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Generation of Rectangular Matrix Key for Hill Cipher Algorithm Using Playfair Cipher

VIA zoom

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VIA zoom

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