

# Table of Contents

## 2019 7th International Conference on Information and Communication Technology (ICoICT)

### Predictive Analytics

<i>Predicting Staple Food Materials Price Using Multivariables Factors (Regression and Fourier Models with ARIMA)</i> Said Fadlan Anshari (Telkom University & Informatic Faculty, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia), Yanti Rusmawati (Telkom University, Indonesia) .....	1
<i>Smart Shopping Prediction on Smart Shopping With Linear Regression Method</i> Maman Abdurrohman (Telkom University, Indonesia), Aji Gautama Putra Satwiko (Telkom University, Indonesia), Medina Diani Nastiti (Telkom University, Indonesia) .....	6
<i>The Causality Effect on Vector Autoregressive Model: The Case for Rainfall Forecasting</i> Aniq Atiqi (Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia) .....	12
<i>Hypnagogia based Smart Alarm System using PIR Sensors</i> Maman Abdurrohman (Telkom University, Indonesia), Aji Gautama Putra Satwiko (Telkom University, Indonesia), Fitrah Nusantara (Telkom University, Indonesia) .....	17

### Information Analysis

<i>Financial Network Approach for Modeling about Company Bankruptcy</i> Jorjie B Permana (Telkom University, Indonesia), Yanti Rusmawati (Telkom University, Indonesia), Muhammad Arzaki (Telkom University & Computing Lab - ICM Research Group, Indonesia) .....	22
<i>A check nodes correction approximate min-sum decoding algorithm for LDPC</i> Ruizhen Wu (Intel Mobile Communications Technology (Xi'an) Ltd, P.R. China), Lin Wanq (Intel Mobile Communications Technology (Xi'an) Ltd, P.R. China), Tao Yuan (Intel Mobile Communications Technology (Xi'an) Ltd, P.R. China), Xiaoyong Zhang (Intel Mobile Communications Technology (Xi'an) Ltd, P.R. China) .....	30
<i>Real-time Screen Sharing Using Web Socket for Presenting Without Projector</i> Irfan Darmawan (Telkom University, Indonesia), Alam Rahmatulloh (Siliwangi University, Indonesia), Rohmat Gunawan (Siliwangi University, Indonesia) .....	35
<i>Enterprise Architecture for the Fire Rescue Services</i> Natasha Manick (University of Mauritius, Mauritius), Ashvin Appigadoo (University of Mauritius, Mauritius), Bibi Zarine Cadessaib (University of Mauritius & Reduit, Mauritius) .....	41

### Image Analysis and Recognition

<i>Analysis of Global Spatial Statistics Features in Existing Contrast Image Quality Assessment Algorithm</i> Ismail Darej (University of Anbar, Iraq), Baraa Hammad (University of Anbar, Iraq) .....	47
<i>Quality Image Enhancement from Low Resolution Camera using Convolutional Neural Network</i> Nopita Pratiwi Patmawati (Telkom University, Indonesia), Anditya Arifianto (Telkom University & Artificial Intelligence Laboratory, ICM Research Group, Indonesia), Kurniawan Nur Ramadhani (Universitas Telkom, Indonesia) .....	51
<i>Classification of Japanese Fagaceae Wood Based on Microscopic Image Analysis</i> Salma Salma (Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia), Esa Prakasa (Indonesian Institute of Sciences, Indonesia), Ratih Damayanti (Forda, Indonesia), Junji Sugiyama (Research Institute for Sustainable Humanosphere, Japan) .....	57
<i>Face Image Super-Resolution using Inception Residual Network and GAN Framework</i> Septian Dwi Indradi (Telkom University, Indonesia), Anditya Arifianto (Telkom University & Artificial Intelligence Laboratory, ICM Research Group, Indonesia), Kurniawan Nur Ramadhani (Universitas Telkom, Indonesia) .....	63

## Intelligent Systems

<i>Approximation of velocity-density function for traffic flow model with obstacle problem in Jalan Merdeka Bandung</i> Putu Harry Gunawan (Telkom University, Indonesia), Muhammad Ardi Rizmaldi (School of Computing, Telkom University, Indonesia) .....	69
<i>Analyzing Tourism Mobile Applications Perceived Quality using Sentiment Analysis and Topic Modeling</i> Riefvan Achmad Masrury (Telkom University, Indonesia), Fannisa Fannisa (Telkom University, Indonesia), Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia) .....	75
<i>Identification of Ultra High-Energy Cosmic Rays Primary Particles Initializing Air Showers on a base of ADC traces from Water Cherenkov Detectors</i> Zbigniew Szadkowski (University of Lodz & Faculty of High-Energy Astrophysics, Poland), Adam Jozwik (University of Lodz, Poland), Krzysztof Pytel (University of Lodz, Poland) .....	81
<i>Prototype of Automation of Organic Fertilizer Manufacturing System Based on Internet of Things</i> Siti Amatullah Karimah (Telkom University, Indonesia), Yogie Fajar Pratama (School of Computing, Telkom University, Indonesia), Endro Ariyanto (Telkom University, Indonesia) .....	86

## Neural Computing

<i>Increasing Accuracy of Power Consumption using Artificial Neural Network</i> Maman Abdurrohman (Telkom University, Indonesia), Aji Gautama Putrada Satwiko (Telkom University, Indonesia), Ary Syukur (Telkom University, Indonesia) .....	92
<i>Generating Image Description on Indonesian Language using Convolutional Neural Network and Gated Recurrent Unit</i> Aditya Alif Nugraha (Telkom University, Indonesia), Anditya Arifianto (Telkom University & Artificial Intelligence Laboratory, ICM Research Group, Indonesia), Suyanto Suyanto (Telkom University, Indonesia) .....	98
<i>A cross model Telco Industry Financial Distress Prediction in Indonesia: Multiple Discriminant Analysis, Logit and Artificial Neural Network</i> Hariadi Kristianto (School of Economics and Business, Telkom University, Indonesia, Indonesia), Brady Rikumahu (School of Economics and Business, Telkom University, Indonesia) .....	104
<i>Prediction of Agriculture and Mining Stock Value Listed in Kompas100 Index Using Artificial Neural Network Backpropagation</i> Meizir Zubir Rajab (Telkom University, Indonesia), Brady Rikumahu (School of Economics and Business, Telkom University, Indonesia) .....	109
<i>Artificial Neural Network for Indonesian Tourism Demand Forecasting</i> Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia), Putu Friscintia (Telkom University, Indonesia) .....	114
<i>Gait Recognition Using Deep Convolutional Features</i> Pa Pa Min (Multimedia University, Malaysia) .....	121

## Smart Living

<i>Indoor Air Quality Monitoring and Controlling System based on IoT and Fuzzy Logic</i> Nico Surantha (Bina Nusantara University, Indonesia), Fadli Pradityo (Bina Nusantara University, Indonesia) .....	126
<i>Communication Learning User Interface Model for Children with Autism with the Goal-Directed Design Method</i> Danang Junaedi (Telkom University, Indonesia), Fitrilia Susanti (Telkom University, Indonesia), Veronikha Effendy (Telkom University, Indonesia) .....	132
<i>Passenger Vehicle Avoidance Time Model For Connected And Autonomous Vehicles</i> Azizul Rahman (Universiti Sains Malaysia, Malaysia) .....	138
<i>Smart Light Recommending System Using Artificial Neural Network Algorithm</i> Maman Abdurrohman (Telkom University, Indonesia), Aji Gautama Putrada Satwiko (Telkom University, Indonesia), Muchammad Ferdian Akbar (Telkom University, Indonesia) .....	144
<i>Smart Living Society begins with A Holistic Digital Economy: A Multi-Level Insight</i> Mei Penq Low (Lot PT 21144 Jln Sq Long & UTAR, Malaysia), Chay Yoke Chung (UTAR, Malaysia), Leng Yean Ung (UTAR, Malaysia), Peck Ling Tee (UTAR, Malaysia), Thiam Yong Kuek (UTAR, Malaysia) .....	149
<i>Elderly Action Recognition System with Location and Motion Data</i> Nour Eddin Tabbakha (Multimedia University, Malaysia), Chee Pun Ooi (Multimedia University, Malaysia), Wooi Haw Tan (Multimedia University, Malaysia) .....	156
<i>Water Filter Automation System Using Fuzzy Logic Controller</i> Bayu Erfianto (TELKOM University & School of Computing, Indonesia), Aji Gautama Putrada Satwiko (Telkom University, Indonesia) .....	161

## Healthcare and Well-being

<i>Implementing Principal Component Analysis and Multinomial Logit for Cancer Detection based on Microarray Data Classification</i>	
Azka Khoirunnisa (Telkom University, Indonesia), A Adiwijaya (Telkom University, Indonesia), Aniq Atiqi (Telkom University, Indonesia)	167
<i>Artificial Intelligence based prediction of seizures for Epileptic Patients: IoT based Cost effective Solution</i>	
Talha Ahmed Khan (Universiti Kuala Lumpur, Malaysia)	173
<i>A DASH Diet Recommendation System for Hypertensive Patients Using Machine Learning</i>	
Romeshwar Sookrah (University of Mauritius, Mauritius), Jaysree Dhowtal (University of Mauritius, Mauritius), Soulakshmee D. Nagowah (University of Mauritius, Mauritius)	178
<i>Virtual Screening of RanBP9 Inhibitors in Alzheimer's disease</i>	
Han Jieh Tey (Multimedia University, Malaysia), Han Chong Ng (Senior Lecturer, Multimedia University, Malaysia), Thong Leng Lim (Multimedia University, Malaysia)	184
<i>Mobile Edge Computing based Mixed Reality Application for the Assistance of Blind and Visually Impaired People</i>	
Arifa Akter (Kumoh National Institute of Technology, Korea), Anik Islam (Kumoh National Institute of Technology, Korea), Soo Young Shin (Kumoh National Institute of Technology, Korea)	189
<i>Disease Propagation Prediction using Machine Learning for Crowdsourcing Mobile Applications</i>	
Leckraj Nagowah (University of Mauritius, Mauritius), Pratima Kurtah (University of Mauritius, Mauritius), Yusrah Takun (University of Mauritius, Mauritius)	194

## Human Factor and Usability

<i>"Do I Really Need to Use a Lock Screen?": An Evaluation of Indonesian Smartphone Users</i>	
Ari Kusyanti (Universitas Brawijaya, Indonesia), Harin Puspa Ayu Catherina (Universitas Brawijaya, Indonesia)	200
<i>Text Segmentation Based on Word Embedding on Indonesian Quran Translation by Greedy with Window Approaching</i>	
Arief Fatchul Huda (Universitas Islam Neqeri Bandung & Telkom University, Indonesia), Ramdani Ramdani (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia)	207
<i>Online Tools for Collaborative Learning to Enhance Students Interaction</i>	
Wan Nur Tasnim Wan Hussin (Universiti Teknologi Malaysia, Malaysia), Jamalludin Harun (Fakulti Pendidikan, Universiti Teknologi Malaysia, Malaysia), Nurbiha A Shukor (Universiti Teknologi Malaysia, Malaysia)	212
<i>The Use of Modified UTAUT 2 Model to Analyze the Continuance Intention of Travel Mobile Application</i>	
Indrawati Indrawati (Telkom University, Indonesia), Firda Amalia (Telkom University, Indonesia)	217
<i>The Usability factors of lost Digital Legacy data from regulatory misconduct: older values and the issue of ownership</i>	
David Cook (Edith Cowan University, Australia), Derani Dissanayake (Edith Cowan University, Australia), Kulwinder Kaur (Edith Cowan University, Australia)	223
<i>Factors Affecting Trust of Software as A Service Usage in Public Network: A Correlation Analysis</i>	
Nurazeen Maarop (Universiti Teknologi Malaysia, Malaysia), Noor Hafizah Hassan (Advanced Informatics School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia), Ganthan Narayana Samy (Universiti Teknologi Malaysia (UTM) & Faculty of Computer Science and Information Systems, Malaysia), Doris Hooi-Ten Wong (Universiti Teknologi Malaysia, Malaysia)	229

## Biometrics and Security Systems

<i>Virtual Password Authentication Scheme in Hashed Domain</i>	
Mohammad Zakie Faiz Rahiemy (Telkom University, Indonesia), Parman Sukarno (Telkom University, Indonesia)	235
<i>Chaos-based Cryptography for Transmitting Multimedia Data over Public Channels</i>	
Ashraf A Zaher (American University of Kuwait - College of Arts and Sciences & IEEE, Kuwait)	241
<i>Face Spoofing Detection using Color Distortion Features and Principal Component Analysis</i>	
Graham Desmon Simanjuntak (Telkom University, Indonesia), Kurniawan Nur Ramadhani (Universitas Telkom, Indonesia), Anditya Arifianto (Telkom University & Artificial Intelligence Laboratory, ICM Research Group, Indonesia)	247
<i>Improving The Accuracy of Fuzzy Vault Scheme in Fingerprint Biometric</i>	
Joni Saputra (Telkom University, Indonesia), Parman Sukarno (Telkom University, Indonesia)	252
<i>Security Document for Smart Parking Gate based on Common Criteria Framework</i>	
Rahmat Yasirandi (Telkom University, Indonesia), Yoso Setyoko (Telkom University, Indonesia), Parman Sukarno (Telkom University, Indonesia)	260

<i>BHMUS: Blockchain Based Secure Outdoor Health Monitoring Scheme Using UAV in Smart City</i> Anik Islam (Kumoh National Institute of Technology, Korea), Soo Young Shin (Kumoh National Institute of Technology, Korea)	268
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

## Social Media Analytics

<i>Online Political Engagement using Twitter among Malaysian Parliamentary Members</i> Kamarul Faizal Hashim (University of Dubai, United Arab Emirates), Muhammad Othman (Universiti Utara Malaysia, Malaysia), Sami Miniaoui, SM (University of Dubai, United Arab Emirates), Zaheruddin Othman (Universiti Utara Malaysia, Malaysia), Shadi Atalla (University of Dubai & University of Dubai, United Arab Emirates), Solahuddin Ismail (Universiti Utara Malaysia, Malaysia)	274
<i>Exploring Relationship between Headline News Sentiment and Stock Return</i> Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia), Siska Ayu (Telkom University, Indonesia), Brady Rikumahu (School of Economics and Business, Telkom University, Indonesia)	279
<i>The impact of social networks on technology entrepreneurs' opportunity recognition process</i> Yvonne L.E. Lee (Multimedia University, Malaysia), WeiLee Lim (UCSI University, Malaysia)	285
<i>Competence Classification of Twitter Users Using the Support Vector Machine (SVM) Method</i> Erwin B. Setiawan (Telkom University, Indonesia), Muhammad Rifaldi (Telkom University, Indonesia)	292
<i>Measuring Information Dissemination Mechanism on Retweet Network for Marketing Communication Effort</i> Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia), Muhammad Rizqy Dwi Putra (Telkom University, Indonesia)	298

## Network Analysis

<i>On the Capacity of Full-Duplex Diamond Relay Networks Using NOMA</i> Mohammed Belal Uddin (Kumoh National Institute of Technology, Korea), Md Fazlul Kader (University of Chittagong, Bangladesh), Soo Young Shin (Kumoh National Institute of Technology, Korea)	305
<i>Quality of Service (QoS) Comparison Analysis of Snort IDS and Bro IDS Application in Software Define Network (SDN) Architecture</i> Muhammad Arief Nugroho (Telkom University, Indonesia), Hendrawan Hendrawan (Telkom University, Indonesia), Parman Sukarno (Telkom University, Indonesia)	311
<i>Interest-based Epidemic Routing in Opportunistic Mobile Networks</i> Vittalis Ayu (Sanata Dharma University, Indonesia), Bambang Soelistijanto (Sanata Dharma University, Indonesia)	318
<i>Delay and energy based message delivery in Delay Tolerant Networks</i> Babar Shah (Zayed University, United Arab Emirates), Ali Abbas (Middle East College, Oman), Muhammad Habib (GPG Jahanzeb College, Pakistan), Francis Chow (Zayed University, United Arab Emirates), Ki-Il Kim (Chungnam National University, Korea), Raza Hasan (Middle East College, Oman)	324
<i>Development of Communication Technology on VANET with a Combination of Ad-hoc, Cellular and GPS Signals as a Solution Traffic problem</i> Faris Humam (Universitas Indonesia, Indonesia)	330
<i>Outage Analysis of NOMA Exploited Coordinated Direct and Relay assisted Uplink Transmission</i> Jae Oh Kim (Kumoh National Institute of Technology, Korea), Mohammed Belal Uddin (Kumoh National Institute of Technology, Korea), Soo Young Shin (Kumoh National Institute of Technology, Korea)	339

## Text Mining and Classification

<i>Price Prediction of Chili in Bandung Regency using Support Vector Machine (SVM) Optimized with an Adaptive Neuro-Fuzzy Inference System (ANFIS)</i> Asma Hasifa Nurcahyono (Telkom University, Indonesia), Fhira Nhita (Telkom University, Indonesia), Deni Saepudin (Telkom University, Indonesia), Annisa Aditsania (Telkom University, Indonesia)	345
<i>A Multi-label Classification on Topics of Quranic Verses (English Translation) Using Backpropagation Neural Network with stochastic gradient descent and adam optimizer</i> Nanang Saiful Huda (Telkom University, Indonesia), Mohamad Syahrul Mubarak (Telkom University, Indonesia), A Adiwijaya (Telkom University, Indonesia)	351
<i>Reading Level System on Fairy Tale Stories for Children Using Dolch Sight Word Vocabulary with Majority Voting Algorithm</i> Alifa Nur Azzami (Telkom University, Indonesia), Dana Sulisty Kusumo (Telkom University, Indonesia), Widi Astuti (Telkom University, Indonesia)	356

<i>Analysis of the Word2Vec Model for Semantic Similarities in Indonesian Words</i>	
Louisten Novandi T Manalu (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Arie Suryani (Telkom University, Indonesia)	363
<i>Clustering Synonym Set in English WordNet</i>	
Jentrisi Priyatno (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia)	368

## Machine and Sensor

<i>Optimization of Tour Scheduling Using Firefly Algorithm</i>	
Akhmad Saifullah (School of Computing, Telkom University, Indonesia), Zk Abdurahman Baizal (Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia)	372
<i>Toward GPU on CUDA for Simulating Non-hydrostatic Wave Model</i>	
Garda Khadafi (School of Computing, Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia)	378
<i>Parallel Computation of Mac-Cormack Method for Simulating Nozzle Gas Flow</i>	
Aqunq Fajar Gumilar (School of Computing, Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia)	385
<i>Implementing OpenMP platform for simulating erodible dam-break using SWE-Exner model</i>	
Cynthia Puspa Anqraeni (School of Computing, Telkom University, Indonesia), Quedi Zata Fakhrusy (School of Computing, Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia)	393
<i>Air Transportation Network Robustness under Random and Hub-Based Disruptions</i>	
Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia), Dian Ramadhani (Telkom University, Indonesia)	398

## Human Machine Interface

<i>Intelligent Monitoring and Controlling System for Hydroponics Precision Agriculture</i>	
Nico Surantha (Bina Nusantara University, Indonesia), Herman Herman (Bina Nusantara University, Indonesia)	404
<i>Haversine Method and LoRa for Monitoring Entry of Fishing Vessel in Marine Protected Area</i>	
Francis Jerric Jabon Candido (Samar State University & University of San Carlos, Philippines), Rojay Flores (Batangas State University, Philippines), Percival Forcadilla (University of San Carlos, Philippines)	410
<i>Design and Performance Investigation of Discrete Wavelet Transform (DWT) Based OFDM Using 4-PAM for Indoor VLC System</i>	
Enqqar Fransiska Dwi Widyatama (Al Azhar Indonesia University, Indonesia), Octarina Nur Samijayani (University of Al Azhar Indonesia, Indonesia), Dwi Astharini (University of Indonesia, Indonesia), Suci Rahmatia (University of Al Azhar Indonesia, Indonesia), Dadang Gunawan (Universitas Indonesia, Indonesia)	414
<i>A Wireless Sensor Network for Fire Detection and Alarm System</i>	
Patrick Jason Y. Piera (University of San Carlos, Philippines), Joseph Karl G. Salva (University of San Carlos, Philippines)	419

## System Modeling

<i>The Clustering Algorithms Approach for Decision efficiency in Investment Portfolio Diversification</i>	
Irma Palupi (Telkom University, Indonesia), Bambang Wahyudi (Telkom University, Indonesia), Indwiarti Indwiarti (Telkom University, Indonesia)	424
<i>Simulating Water and Sediment Flow Using SWE-Convection Diffusion Model on OpenMP Platform</i>	
Quedi Zata Fakhrusy (School of Computing, Telkom University, Indonesia), Cynthia Puspa Anqraeni (School of Computing, Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia)	430
<i>An Open Government Data Maturity Model: A Case Study in BPS-Statistics Indonesia</i>	
Miftahu Rahmatika (Universitas Indonesia, Indonesia), Dewi Krismawati (Universitas Indonesia, Indonesia), Sinta Rahmawati (Universitas Indonesia, Indonesia), Assaf Arief (University of Indonesia, Indonesia), Dana I. Sensuse (Universitas Indonesia, Indonesia), Muhammad Fadhil Dzulfikar (Universitas Indonesia & E-Government and E-Business Research Lab, Indonesia)	436
<i>Computing UDCHR Scheme for simulating underwater sediment movement using OpenMP</i>	
Fadhil Lobma (School of Computing, Telkom University, Indonesia), Putu Harry Gunawan (Telkom University, Indonesia)	443

#### *The MSOF-DTW Method for Checking Timeseries Similarities*

Fazmah Arif Yulianto (Telkom University, Indonesia), Kuspriyanto Kuspriyanto (Institut Teknologi Bandung, Indonesia), Richard Mengko (Institut Teknologi Bandung, Indonesia)	448
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

## Machine Learning and Prediction

#### *Nonlinear Autoregressive Neural Network Models for Sea Level Prediction, Study Case: in Semarang, Indonesia*

Didit Adytia (School of Computing, Telkom University, Indonesia), Miftahul Awali Rizkina (Telkom University, Indonesia), Nugrahanggil Subasita (NeXT Waves-ID, Indonesia)	455
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

#### *Lung Sounds Classification Using Stacked Autoencoder and Support Vector Machine*

Adnan Hassal Falah (Telkom University, Indonesia), Jondri Jondri (Telkom University, Indonesia)	460
-------------------------------------------------------------------------------------------------	-----

#### *IoT based Song Recognition for FM Radio Station Broadcasting*

Murtadha Arif Bin Sahbudin (University Of Messina, Messina & MDSLAb, Italy), Marco Scarpa (University of Messina, Italy), Salvatore Serrano (University of Messina, Italy), Chakib Chaouch (University of Messina, Messina, Italy)	465
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

#### *The Particulate Matter Concentration Spatial Prediction using Interpolation Techniques with Machine Learning*

Pattarapron Chuanchai (University of Chiang Mai, Thailand)	471
------------------------------------------------------------	-----

#### *Two Stages Song Subject Classification on Indonesian Song Based on Lyrics, Genre & Artist*

Rifqi Aziz (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), A Adiwijaya (Telkom University, Indonesia)	476
-------------------------------------------------------------------------------------------------------------------------------------------	-----

## Algorithm Analysis

#### *Parallelization of Uniformization Algorithm with CUDA-Aware MPI*

Lia Farhatuaini (Universitas Gadjah Mada, Indonesia), Reza Pulungan (Universitas Gadjah Mada, Indonesia)	482
----------------------------------------------------------------------------------------------------------	-----

#### *Constructing a One-time and a Few-time Digital Signature Schemes from the Hardness of Megrelishvili Vector-Matrix Problem*

Muhammad Arzaki (Telkom University & Computing Lab - ICM Research Group, Indonesia)	488
-------------------------------------------------------------------------------------	-----

#### *Forecasting Portfolio Optimization using Artificial Neural Network and Genetic Algorithm*

Mohammad Solin (Telkom University, Indonesia), Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia), Brady Rikumahu (School of Economics and Business, Telkom University, Indonesia), Muhammad Apriandito Arya Saputra (Telkom University, Indonesia)	496
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

#### *Storytelling Technique Using Three Act Structure and Directed Graph for Virtual Reality Game (case studi: UrBandung Legend)*

Bambang Pudjoatmodjo (Telkom University, Indonesia & Universiti Teknikal Malaysia Melaka, Malaysia), Rizza Indah Meqa Mandasari (Telkom University, Indonesia), Sazilah Salam (Universiti Teknikal Malaysia Melaka & UTeM Solutions Sdn Bhd, Malaysia)	503
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

## Data Sources and Management

#### *Big Data Analytics in Airlines: Efficiency Evaluation using DEA*

Zudha Aulia Rachman (Universitas Indonesia, Indonesia), Arviansyah Arviansyah (Universitas Indonesia, Indonesia)	508
------------------------------------------------------------------------------------------------------------------	-----

#### *A Study of Ontology-based Knowledge Management System in Academic Domain*

Shidiq Al Hakim (University of Indonesia, Indonesia), Mokhammad Fathoni Rokhman (Universitas Maarif Hasyim Latif, Sidoarjo, Indonesia), Dana I. Sensuse (Universitas Indonesia, Indonesia), Deki Satria (Universitas Indonesia, Indonesia)	514
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

#### *Mathematical Formulation and Implementation of Query Inversion Techniques in RDBMS for Tracking Data Provenance*

Anika Tabassum (East West University, Bangladesh), Anannya Nady (East West University, Bangladesh), Mohammad Rezwatul Huq (East West University, Bangladesh)	519
--------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

#### *Modelling Augmented Congklak using Cycle of Digital Augmentation Method*

Veronikha Effendy (Telkom University, Indonesia), Irfananda Satrio (Telkom University, Indonesia), Danang Junaedi (Telkom University, Indonesia)	525
--------------------------------------------------------------------------------------------------------------------------------------------------	-----

#### *A Comparative Study of Hollywood Movie Successfulness Prediction Model*

Riefvan Achmad Masrury (Telkom University, Indonesia), Muhammad Apriandito Arya Saputra (Telkom University, Indonesia), Andry Alamsyah (Telkom University & School of Economics and Business, Indonesia), Made Primantari (Telkom University, Indonesia)	531
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----



## Text and Sentiment Analysis

<i>Paraphrase Construction of Al Quran in Indonesian Language Translation</i>	
Amalia Asti Hutami (Telkom University Bandung, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Arie Suryani (Telkom University, Indonesia) .....	536
<i>People Entity Recognition in Indonesian Quran Translation with Conditional Random Field Approach</i>	
Farhan Dzaky Arvianto (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Arief Fatchul Huda (Universitas Islam Negeri Bandung & Telkom University, Indonesia) .....	542
<i>Named Entity Recognition on Indonesian Tweets using Hidden Markov Model</i>	
Indira Suri Azarine (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Ibnu Asror (Telkom University, Indonesia) .....	547
<i>Indexing Name in Hadith Translation Using Hidden Markov Model (HMM)</i>	
Widia Permata Sari (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Arief Fatchul Huda (Universitas Islam Negeri Bandung & Telkom University, Indonesia) .....	552
<i>Truncated query of phonetic search for Al Qur'an</i>	
Aidil Zafran (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Kemas Lhaksmana (Telkom University, Indonesia) .....	557

## General

<i>C5.0 Algorithm and Synthetic Minority Over-sampling Technique (SMOTE) for Rainfall Forecasting in Bandung Regency</i>	
Erwin Kurniawan (Telkom University, Indonesia), Fhira Nhita (Telkom University, Indonesia), Annisa Aditsania (Telkom University, Indonesia), Deni Saepudin (Telkom University, Indonesia) .....	561
<i>Rainfall Forecasting using the Classification and Regression Tree (CART) Algorithm and Adaptive Synthetic Sampling (Study Case: Bandung Regency)</i>	
Siti Nur Lathifah (Telkom University, Indonesia), Fhira Nhita (Telkom University, Indonesia), Annisa Aditsania (Telkom University, Indonesia), Deni Saepudin (Telkom University, Indonesia) .....	566
<i>Development of a Sharaf Table for Vocabulary in the Qur'an using Rule Based</i>	
Taufik Rahmat Kurniawan, Opik (Telkom University, Indonesia), Moch Arif Bijaksana (Telkom University, Indonesia), Arief Fatchul Huda (Universitas Islam Negeri Bandung & Telkom University, Indonesia) .....	571
<i>Text Classification of British English and American English Using Support Vector Machine</i>	
Muhammad Romi Ario Utomo (Telkom University, Indonesia), Yuliant Sibaroni (Telkom University, Indonesia) .....	576
<i>Signal Detection for Mobile Devices</i>	
Wen-Long Chin (National Cheng Kung University, Taiwan), Ming-Ju Lu (National Cheng Kung University, Taiwan) .....	582