ICICoS
2019

The 3rd International Conference
on Informatics and Computational Sciences

PROCEEDINGS

October 29th – 30th 2019
Semarang, Central Java, Indonesia

ICICoS 2019

"Accelerating Informatics
and Computational Research
for Smarter Society in The Era of Industry 4.0"

2019 3rd International Conference on Informatics and Computational Sciences (ICICoS)
took place October 29-30, 2019 in Semarang, Indonesia.

Program Schedule

Tuesday, October 29th, 2019

07.30-08.00		Registration	Borobudur 1 Room
08.00-08.15	Opening Ceremony	Opening Speech from the General Chair of ICICoS 2019 **(Dr. Retno Kusumaningrum, S.Si, M.Kom)**	
08.15-08.25		Opening Speech from the Dean of Faculty of Science and Mathematics, Universitas Diponegoro **(Prof. Dr. Widowati M.Si.)**	
08.25-08.45		Opening speech from Chair of IEEE Indonesia Section **(Prof. Wisnu Jatmiko)**	
08.45-08.55		Opening Speech from the Rector Universitas Diponegoro **(Prof. Dr. Yos Johan Utama, S.H., M.Hum)**	
08.55-09.15		Photo Session and Coffee Break	
09.15-10.10	Plenary	• Keynote Speaker I: **Mahardika Pratama, Ph.D**	
10.10-11.05		• Keynote Speaker II: **Prof. A Min Tjoa**	
11.05-12.00		• Keynote Speaker III: **Prof. Riyanarto Sarno**	
12.10-13.00		Lunch	Restaurant (Cafe Delima)
13.00-15.00	Parallel Session I	Six Parallel Sessions	1: Borobudur 1 2: Borobudur 2 3: Sewu 4: Mendut 5: Kalasan 6: Prambanan
15.00-15.30		Coffee Break	
15.45-17.45	Parallel Session II	Five Parallel Sessions	1: Borobudur 2 Room 2: Sewu Room 3: Mendut Room 4: Prambanan Room 5: Kalasan
17.45-18.30		Free Session	

Parallel Session Details

S1: Software Engineering and Embedded System

S1.1 *Testing of Owner Estimate Cost Model with Android-based Application*
Sholiq Sholiq, Pandu Hutomo, Ariani Wulandari, Apol Pribadi Subriadi, Anisah Herdiyanti and Eko Darmaningrat

S1.2 *The Effect of Knowledge Management System on Software Development Process with Scrum*
Mochamad Umar Al Hafidz and Dana I. Sensuse

S1.3 *Conceptual Model for Human Anatomy Learning Based Augmented Reality on Marker Puzzle 3D Printing*
Wahyu Hidayat, Adhistya Erna Permanasari, Paulus Insap Santosa, Nur Arfian and Lina Choridah

S1.4 *Development and Validation of Instruments for Evaluation Enterprise Resource Planning on human resource management in Higher Education sector*
Henry Widjaja, Meyliana Meyliana, Erick Fernando, Surjandy Surjandy, Denardo Grady, Bellarika Liejaya and Mareta Siwi

S1.5 *The Key Role of Ontology Alignment and Enrichment Methodologies for Aligning and Enriching Dwipa Ontology with the Weather Concept on the Tourism Domain*
Guson Kuntarto, Irwan Prasetya Gunawan and Yossy Alrin

S1.6 *An Optimum Clustered Grid-Based Particle Swarm Optimization to Enhance Efficiency Energy in Wireless Sensor Networks*
Kun Nursyaiful Priyo Pamungkas, Waskitho Wibisono and Supeno Djanali

S1.7 *Prioritizing Determinants of Internet of Things (IoT) Technology Adoption: Case Study of Agribusiness PT. XYZ*
Sonia Ladasi, Muhammad Rifki Shihab, Achmad Hidayanto and Nur Fitriah Ayuning Budi

S1.8 *Ranking of Game Mechanics for Gamification in Mobile Payment Using AHP-TOPSIS: Uses and Gratification Perspective*
Mutia Putri, Achmad Hidayanto, Edi Surya Negara, Zaenal Abidin, Prahastiwi Utari and Nur Fitriah Ayuning Budi

Coffee Break

S1.9 *A Mixed Method using AHP-TOPSIS for Dryland Agriculture Crops Selection Problem*
Wiwien Hadikurniawati, Edy Winarno, Dwi Budi Santoso and Purwatiningtyas Purwatiningtyas

S1.10 *Verification of a Rule-Based Expert System by Using SAL Model Checker*
Maria Ulfah Kalijaga and Sayekti Abriani

S1.11 *Implementation of Case-Method Cycle for Case-Based Reasoning in Human Medical Health: A Systematic Review*
Damayanti Elisabeth, Dana I. Sensuse and Shidiq Al Hakim

S2: Natural Language Processing

S2.1 *Twitter Sentiment Analysis About Public Opinion On 4G Smartfren Network Services Using Convolutional Neural Network*
Muhammad Aldiansyah and Priyo Sasongko

S2.2 *Social Network Analysis of Health Development in Indonesia*
Agung Tika Wicaksono and Siti Mariyah

S2.3 *Fuzzy Semantic-Based String Similarity Experiments to Detect Plagiarism in Indonesian Documents*
Chonan Firda Odayakana Umareta and Siti Mariyah

S2.4 *Document Similarity Detection using Indonesian Language Word2vec Model*
Nahda Rosa Ramadhanti and Siti Mariyah

S2.5 *Music Emotion Classification Based on Indonesian Song Lyrics Using Recurrent Neural Network*
Helmi Piliang and Retno Kusumaningrum

S2.6 *The Question Answering System of Indonesia's History Using Dynamic Memory Networks (DMN) Model*
Afifah Ayuningtyas and Retno Kusumaningrum

S2.7 *Twitter Storytelling Generator Using Latent Dirichlet Allocation and Hidden Markov Model POS-TAG (Part-of-Speech Tagging)*
Yasir Rohman and Retno Kusumaningrum

S2.8 *Aspect Based Sentiment Analysis in E-Commerce User Reviews Using Latent Dirichlet Allocation (LDA) and Sentiment Lexicon*
Eko Wahyudi and Retno Kusumaningrum

Coffee Break

S2.9 *Classification of Radicalism Content from Twitter Written in Indonesian Language using Long Short Term Memory*
Nur Idris, Widy Widyawan and Teguh Bharata Adji

S2.10 *Ensemble Learning Approach on Indonesian Fake News Classification*
Herley Al-Ash, Alhadi Bustamam, Petrus Mursanto and Mutia Putri

S2.11 *Twitter Buzzer Detection for Indonesian Presidential Election*
Andi Suciati, Ari Wibisono and Petrus Mursanto

S2.12 *Classification of Indonesian Music Using the Convolutional Neural Network Method*
Saesarinda Juwita and Sukmawati Nur Endah

S2.13 *Song Emotion Detection based on Arousal-Valence from Audio and Lyrics using Rule Based Method*
Fika Rachman, Riyanarto Sarno and Chastine Fatichah

S2.14 *Normal and Murmur Heart Sound Classification Using Linear Predictive Coding and K-Nearest Neighbor Methods*
Aghus Sofwan, Imam Santoso, M Arfan, Ajub Ajulian Zahra and Himawan Pradipta

S2.15 *Indonesian Music Genre Classification on Indonesian Regional Songs using Deep Recurrent Neural Network Method*
Muhammad Naufal Furqon, Khadijah Khadijah, Suhartono Suhartono and Retno Kusumaningrum

S3: Computer in Social Science

S3.1 *Factors Influence Knowledge Sharing Through Social Networking Site Case Study: Virtual Community Institut Ibu Profesional (IIP)*
Aisha Adetia, Peny Rishartati, Sari Agustin Wulandari, Dana I. Sensuse, Sofian Lusa, Pudy Prima and Regina Carla Handayani

S3.2 *Workflow Complexity in Constructive Cost Model II*
Sholiq Sholiq, Riyanarto Sarno, Aris Tjahyanto and Ariani Wulandari

S3.3 *Gratification sought in Gamification on Mobile Payment*
Mutia Putri, Achmad Hidayanto, Edi Surya Negara, Nur Fitriah Ayuning Budi, Prahastiwi Utari and Zaenal Abidin

S3.4 *An Assesment of Knowledge Sharing System: SCeLe Universitas Indonesia*
Nadya Safitri, Nur Wulan Pohan, Dana I. Sensuse, Deki Satria and Shidiq Al Hakim

S3.5 *Analysis of Server-Based Electronic Money Acceptance Using Partial Least Square Method*
Alvina Rahmi and Satriyo Adhy

S3.6 *eParticipation Provision and Demand Analysis of a Regional Government: Insights from Metro City*
Zikri Irfandi, Muhammad Rifki Shihab and Achmad Hidayanto

S3.7 *Analysis of E-Commerce using Technology Acceptance Model and Its Interaction With Risk, Enjoyment, Compatibility Variables*
Muhammad Irfan Setiyadi, Bunga Mangiwa and Dinar Mutiara Kusumo Nugraheni

S3.8 *User Continuance in Playing Mobile Online Games Analyzed by Using UTAUT and Game Design*
Hafiz Marham and Ragil Saputra

Coffee Break

S3.9 *Inclusive Security Models To Building E-Government Trust*
Aji Supriyanto, Budi Hartono, Dwi Diartono and Herny Februariyanti

S3.10 *Methods to Enhance the Utilization of Business Intelligence Dashboard by Integration of Evaluation and User Testing*
Ruth Magdalena, Yova Ruldeviyani, Charles Bernando and Dana I. Sensuse

S3.11 *Examining the Acceptance of Virtual Assistant - Vanika for University Students*
Devina Gunadi, Bernardinus Harnadi and Ridwan Sanjaya

S3.12 *Success Factor for IT Project Implementation in Banking Industry: A Case Study*
Apiladosi Priambodo, Putu Wuri Handayani and Ave Adriana Pinem

S3.13 *Trust and Risk for Measuring OnlineTax Application Acceptance*
Wulan Lestari, Edy Suharto, Panji Wirawan and Kabul Kurniawan

S4: Computer Vision 1

S4.1 *Selecting the Function of Color Space Conversion RGB / HSL to Wavelength for Fluorescence Intensity Measurement on Android Based Applications*
Ronaldo Kristianto, Farida Dwi Handayani and Adi Wibowo

S4.2 *Denoising Convolutional Variational Autoencoders-Based Feature Learning for Automatic Detection of Plant Diseases*
Vicky Zilvan, Hilman F Pardede, Endang Suryawati, Budiarianto Kusumo, Ade Ramdan and Dikdik Krisnandi

S4.3 *Deep Convolutional Adversarial Network-Based Feature Learning for Tea Clones Identifications*
Endang Suryawati, Vicky Zilvan, Raden Sandra Yuwana, Hilman F Pardede, Dadan Rohdiana and Ana Heryana

S4.4 *Cataract Detection Using Single Layer Perceptron Based on Smartphone*
Riyanto Sigit, Elvi Triyana and Mochammad Rochmad

S4.5 *Detection of the Emergence of Exudate on the Image of Retina Using Extreme Learning Machine Method*
Zolanda Anggraeni and Helmie Arif Wibawa

S4.6 *Real-Time Human Detection and Tracking using Two sequential frames for Advanced Driver Assistance System*
Agus Mulyanto, Rohmat Borman, Purwono Prasetyawan, Wisnu Jatmiko and Petrus Mursanto

S4.7 *Snake Fruit Classification by Using Histogram of Oriented Gradient Feature and Extreme Learning Machine*
Rismiyati Rismiyati and Helmie Arif Wibawa

S4.8 *Face Recognition Using Faster R-CNN with Inception-V2 Architecture for CCTV camera*
Lavin J. Halawa, Ferda Ernawan and Adi Wibowo

Coffee Break

S4.9 *Sumatra Traditional Food Image Classification Using Classical Machine Learning*
Puteri Khatya Fahira, Ari Wibisono, Hanif A Wisesa, Zulia Putri Rahmadhani, Petrus Mursanto and Adi Nurhadiyatna

S4.10 *Attribute Selection for Detection of Soybean Plant Disease and Pests*
Sukmawati Nur Endah, Eko Sarwoko, Priyo Sasongko, Roihan Auliya Ulfattah and Saesarinda Juwita

S5: Computer Vision 2

S5.1 *Energy Aware Parking Lot Availability Detection using YOLO on TX2*
Yohan Anggawijaya, Tien-Hsiung Weng and Rosita Herawati

S5.2 *Ensembles of Convolutional Neural Networks for Skin Lesion Dermoscopy Images Classification*
Muhammad Ammarul Hilmy and Priyo Sasongko

S5.3 *Analysis of Reliance Factors in the Text, Images and Videos on Social Media*
Surjandy Surjandy, Erick Fernando, Meyliana Meyliana, Ferianto Surya Wijaya, Theresia Swasti and Kristianus Oktriono

S5.4 *Feature Extraction using Self-Supervised Convolutional Autoencoder for Content based Image Retrieval*
Indah Agustien Siradjuddin, Mochammad Kautsar Sophan and Wrida Wardana

S5.5 *Improved Line Operator for Retinal Blood Vessel Segmentation*
Randy Wihandika

S5.6 *Classification of Abnormality in Chest X-Ray Images by Transfer Learning of CheXNet*
Mawanda Almuhayar, Henry Horng-Shing Lu and Nur Iriawan

S5.7 *Hyperspectral Imaging Feature Selection Using Regression Tree Algorithm: Prediction of Carotenoid Content of Velvet Apple Leaf*
Maulana Ihsan, Adhi Harmoko Saputro and Windri Handayani

S5.8 *Chlorophyll A and B Content Measurement System of Velvet Apple Leaf in Hyperspectral Imaging*
Femilia P Mayranti, Adhi Harmoko Saputro and Windri Handayani

Coffee Break

S5.9 *Best Parameters Selection of Arrhythmia Classification Using Convolutional Neural Networks*
Rizqi Hadi Prawira, Ajif Yunizar Pratama Yusuf and Adi Wibowo

S5.10 *Acquiring domain knowledge for Cardiotocography: A Deep Learning Approach*
Priyamvada Pushkar Huddar and Sumedh Sontakke

S6: Machine Learning & Computation

S6.1 *Rating Prediction on Movie Recommendation System: Collaborative Filtering Algorithm (CFA) vs. Dissymetrical Percentage Collaborative Filtering Algorithm (DSPCFA)*

Johan Eko Purnomo and Sukmawati Nur Endah

S6.2 *Genetic Algorithm-Based Feature Selection and Optimization of Backpropagation Neural Network Parameters for Classification of Breast Cancer Using MicroRNA Profiles*

Amazona Adorada and Adi Wibowo

S6.3 *An efficient scheme to combine the user demographics and item attribute for solving data sparsity and cold-start problems*

Noor Ifada, Mochammad Kautsar Sophan, Irvan Syachrudin and Selgy Zahranida Sugiharto

S6.4 *Diphtheria Case Number Forecasting using Radial Basis Function Neural Network*

Wiwik Anggraeni, Dina Nandika, Faizal Mahananto, Yeyen Sudiarti and Cut Fadhilla

S6.5 *Facial Expression Recognition using Extreme Learning Machine*

Serenada Shafira, Nadya Ulfa, Helmie Arif Wibawa and Rismiyati Rismiyati

S6.6 *Implementation of Alpha Miner Algorithm in Process Mining Application Development for Online Learning Activities Based on MOODLE Event Log Data*

Phyllalintang Nafasa, Indra Waspada, Nurdin Bahtiar and Adi Wibowo

S6.7 *A Comparative Performance Evaluation of Random Forest Feature Selection on Classification of Hepatocellular Carcinoma Gene Expression Data*

Moh Abdul Latief, Titin Siswantining, Alhadi Bustamam and Devvi Sarwinda

S6.8 *Data Mining Implementation for Monitoring Network Intrusion*

Annisa Andarrachmi and Wahyu Catur Wibowo

Coffee Break

S6.9 *Clustering of Districts in Indonesia using the 2015 High School Social Sciences National Examination Results*

Ridha Ferdhiana, Taufik F. Abidin and Khairul Amri

S6.10 *An Energy-Aware Computation Offloading Framework for a Mobile Crowdsensing Cluster Using DMIPS Approach*

Fuad Dary Rosyadi, Waskitho Wibisono, Tohari Ahmad, Royyana Ijtihadie and Ary Mazharuddin Shiddiqi

S6.11 *Multiple Imputation with Predictive Mean Matching Method for Numerical Missing Data*

Emha Fathul Akmam, Titin Siswantining, Saskya Soemartojo and Devvi Sarwinda

S6.12 *Analysis of GPGPU-Based Brute-Force and Dictionary Attack On SHA-1 Password Hash*

Laatansa Imroni, Ragil Saputra and Beta Noranita

S6.13 *Multi-Layered Encryption Method*

Usman Sudibyo and Cinantya Paramita

S6.14 *Application of Sequential Regression Multivariate Imputation Method on Multivariate Normal Missing Data*

Nurzaman Nurzaman, Titin Siswantining, Saskya Soemartojo and Devvi Sarwinda

S6.15 *Missing Value Analysis of Numerical Data using Fractional Hot Deck Imputation*

Samuel Zico Christopher, Titin Siswantining, Devvi Sarwinda and Alhadi Bustamam

S6.16 *Comparative Experimental Study of Multi Label Classification using Single Label Ground Truth with Application to Field Majoring Problem*

Oxapisi V Adikhresna, Retno Kusumaningrum and Budi Warsito

S6.17 *Application of A Causal Discovery Model to Study The Effect of Iron Supplementation in Children With Iron Deficiency Anemia*

Fajar Agung Nugroho, Tom Ederveen, Adi Wibowo, Jos Boekhorst, Marien de Jonge and Tom Heskes