

Contents

Part I Invited Speaker

- 1 Computational Intelligence Based Regulation of the DC Bus in the On-grid Photovoltaic System** 3
Mauridhi Hery Purnomo, Iwan Setiawan and Ardyono Priyadi
- 2 Virtual Prototyping of a Compliant Spindle for Robotic Deburring** 17
Giovanni Berselli, Marcello Pellicciari, Gabriele Bigi and Angelo O. Andrisano
- 3 A Concept of Multi Rough Sets Defined on Multi-contextual Information Systems**. 31
Rolly Intan

Part II Technology Innovation in Robotics Image Recognition and Computational Intelligence Applications

- 4 Coordinates Modelling of the Discrete Hexapod Manipulator via Artificial Intelligence**. 47
Felix Pasila and Roche Alimin
- 5 An Object Recognition in Video Image Using Computer Vision** 55
Sang-gu Kim, Seung-hoon Kang, Joung Gyu Lee and Hoon Jae Lee
- 6 Comparative Study on Mammogram Image Enhancement Methods According to the Determinant of Radiography Image Quality** 65
Erna Alimudin, Hanung Adi Nugroho and Teguh Bharata Adji

7	Clustering and Principal Feature Selection Impact for Internet Traffic Classification Using K-NN.	75
	Trianggoro Wiradinata and P. Adi Suryaputra	
8	Altitude Lock Capability Benchmarking: Type 2 Fuzzy, Type 1 Fuzzy, and Fuzzy-PID with Extreme Altitude Change as a Disturbance	83
	Hendi Wicaksono, Yohanes Gunawan, Cornelius Kristanto and Leonardie Haryanto	
9	Indonesian Dynamic Sign Language Recognition at Complex Background with 2D Convolutional Neural Networks	91
	Nehemia Sugianto and Elizabeth Irenne Yuwono	
10	Image-Based Distance Change Identification by Segment Correlation	99
	Nemuel Daniel Pah	
11	Situation Awareness Assessment Mechanism for a Telepresence Robot	107
	Petrus Santoso and Handry Khoswanto	
12	Relevant Features for Classification of Digital Mammogram Images.	115
	Erna Alimudin, Hanung Adi Nugroho and Teguh Bharata Adji	
13	Multi-objective Using NSGA-2 for Enhancing the Consistency-Matrix.	123
	Abba Suganda Girsang, Sfenrianto and Jarot S. Suroso	
14	Optimization of AI Tactic in Action-RPG Game	131
	Kristo Radion Purba	
15	Direction and Semantic Features for Handwritten Balinese Character Recognition System	139
	Luh Putu Ayu Prapitasari and Komang Budiarta	
16	Energy Decomposition Model Using Takagi-Sugeno Neuro Fuzzy	149
	Yusak Tanoto and Felix Pasila	
17	Odometry Algorithm with Obstacle Avoidance on Mobile Robot Navigation	155
	Handry Khoswanto, Petrus Santoso and Resmana Lim	

**Part III Technology Innovation in Electrical Engineering,
Electric Vehicle and Energy Management**

18 Vision-Based Human Position Estimation and Following Using an Unmanned Hexarotor Helicopter	165
Jung Hyun Lee and Taeseok Jin	
19 The Role of Renewable Energy: Sumba Iconic Island, an Implementation of 100 Percent Renewable Energy by 2020	173
Abraham Lomi	
20 Electromechanical Characterization of Bucky Gel Actuator Based on Polymer Composite PCL-PU-CNT for Artificial Muscle	185
Yudan Whulanza, Andika Praditya Hadiputra, Felix Pasila and Sugeng Supriadi	
21 A Single-Phase Twin-Buck Inverter	193
Hanny H. Tumbelaka	
22 Performance Comparison of Intelligent Control of Maximum Power Point Tracking in Photovoltaic System.	203
Daniel Martomanggolo Wonohadidjojo	
23 Vehicle Security and Management System on GPS Assisted Vehicle Using Geofence and Google Map	215
Lanny Agustine, Egber Pangaliela and Hartono Pranjoto	
24 Security and Stability Improvement of Power System Due to Interconnection of DG to the Grid	227
Ni Putu Agustini, Lauhil Mahfudz Hayusman, Taufik Hidayat and I. Made Wartana	
25 Solar Simulator Using Halogen Lamp for PV Research	239
Aryuanto Soetedjo, Yusuf Ismail Nakhoda, Abraham Lomi and Teguh Adi Suryanto	
26 Artificial Bee Colony Algorithm for Optimal Power Flow on Transient Stability of Java-Bali 500 KV	247
Irrine Budi Sulistiawati and M. Ibrahim Ashari	
27 Sizing and Costs Implications of Long-Term Electricity Planning: A Case of Kupang City, Indonesia.	257
Daniel Rohi and Yusak Tanoto	
28 Dynamic Simulation of Wheel Drive and Suspension System in a Through-the-Road Parallel Hybrid Electric Vehicle	263
Mohamad Yamin, Cokorda P. Mahandari and Rasyid H. Sudono	

29	A Reliable, Low-Cost, and Low-Power Base Platform for Energy Management System	271
	Henry Hermawan, Edward Oesnawi and Albert Darmaliputra	
30	Android Application for Distribution Switchboard Design	279
	Julius Sentosa Setiadji, Kevin Budihargono and Petrus Santoso	
Part IV Technology Innovation in Electronic, Manufacturing, Instrumentation and Material Engineering		
31	Adaptive Bilateral Filter for Infrared Small Target Enhancement	289
	Tae Wuk Bae and Hwi Gang Kim	
32	Innovative Tester for Underwater Locator Beacon Used in Flight/Voyage Recorder (Black Box)	299
	Hartono Pranjoto and Sutoyo	
33	2D CFD Model of Blunt NACA 0018 at High Reynolds Number for Improving Vertical Axis Turbine Performance	309
	Nu Rhahida Arini, Stephen R. Turnock and Mingyi Tan	
34	Recycling of the Ash Waste by Electric Plasma Treatment to Produce Fibrous Materials	319
	S.L. Buyantuev, A.S. Kondratenko, E.T. Bazarsadaev and A.B. Khmelev	
35	Performance Evaluation of Welded Knitted E-Fabrics for Electrical Resistance Heating.	327
	Senem Kursun Bahadir, Ozgur Atalay, Fatma Kalaoglu, Savvas Vassiliadis and Stelios Potirakis	
36	IP Based Module for Building Automation System	337
	J.D. Irawan, S. Prasetyo and S.A. Wibowo	
37	Influence of CTAB and Sonication on Nickel Hydroxide Nanoparticles Synthesis by Electrolysis at High Voltage.	345
	Yanatra Budipramana, Suprpto, Taslim Ersam and Fredy Kurniawan	
38	Waste Industrial Processing of Boron-Treated by Plasma Arc to Produce the Melt and Fiber Materials	353
	S.L. Buyantuev, Ning Guiling, A.S. Kondratenko, Junwei Ye, E.T. Bazarsadaev, A.B. Khmelev and Shuhong Guo	
39	Design of Arrhythmia Detection Device Based on Fingertip Pulse Sensor	363
	R. Wahyu Kusuma, R. Al Aziz Abbie and Purnawarman Musa	

40	Analysis of Fundamental Frequency and Formant Frequency for Speaker ‘Makhraj’ Pronunciation with DTW Method	373
	Muhammad Subali, Miftah Andriansyah and Christanto Sinambela	
41	Design and Fabrication of “Ha (uM)” Shape-Slot Microstrip Antenna for WLAN 2.4 GHz	383
	Srisanto Sotyohadi, Sholeh Hadi Pramono and Moechammad Sarosa	
42	Investigation of the Electric Discharge Machining on the Stability of Coal-Water Slurries	393
	S.L. Buyantuev, A.B. Khmelev, A.S. Kondratenko and F.P. Baldynova	
43	A River Water Level Monitoring System Using Android-Based Wireless Sensor Networks for a Flood Early Warning System	401
	Riny Sulistyowati, Hari Agus Sujono and Ahmad Khamdi Musthofa	
44	The Influence of Depth of Cut, Feed Rate and Step-Over on Surface Roughness of Polycarbonate Material in Subtractive Rapid Prototyping	409
	The Jaya Suteja	
45	Adaptive Cars Headlamps System with Image Processing and Lighting Angle Control	415
	William Tandy Prasetyo, Petrus Santoso and Resmana Lim	
46	Changes in the Rheological Properties and the Selection of a Mathematical Model of the Behavior of Coal-Water Slurry During Transport and Storage	423
	S.L. Buyantuev, A.B. Khmelev and A.S. Kondratenko	
47	Design of a Fetal Heartbeat Detector.	429
	Nur Sultan Salahuddin, Sri Poernomo Sari, Paulus A. Jambormias and Johan Harlan	
 Part V Technology Innovation in Internet of Things and Its Applications		
48	Network Traffic and Security Event Collecting System.	439
	Hee-Seung Son, Jin-Heung Lee, Tae-Yong Kim and Sang-Gon Lee	
49	Paper Prototyping for BatiKids: A Technique to Examine Children’s Interaction and Feedback in Designing a Game-Based Learning	447
	Hestiasari Rante, Heidi Schelhowe and Michael Lund	

50	Tracing Related Scientific Papers by a Given Seed Paper Using Parscit	457
	Resmana Lim, Indra Ruslan, Hansin Susatya, Adi Wibowo, Andreas Handojo and Raymond Sutjiadi	
51	Factors Affecting Edmodo Adoption as Online Learning Medium.	465
	Iwa Sungkono Herlambangkoro and Trianggoro Wiradinata	
52	Principal Feature Selection Impact for Internet Traffic Classification Using Naïve Bayes.	475
	Adi Suryaputra Paramita	
53	Study on the Public Sector Information (PSI) Service Model for Science and Technology Domain in South Korea	481
	Yong Ho Lee	
54	Digital Natives: Its Characteristics and Challenge to the Library Service Quality	487
	Siana Halim, Felecia, Inggrid, Dian Wulandari and Demmy Kasih	
55	Web-Based Design of the Regional Health Service System in Bogor Regency.	495
	B. Sundari, Revida Iriana and Bertilia Lina Kusrina	
56	Security Handwritten Documents Using Inner Product	501
	Syaifudin and Dian Pratiwi	
57	Augmented Reality Technique for Climate Change Mitigation	511
	Ruswandi Tahrir	
58	Cyber Security for Website of Technology Policy Laboratory	521
	Jarot S. Suroso	
59	TAM-MOA Hybrid Model to Analyze the Acceptance of Smartphone for Pediatricians in Teaching Hospital in Indonesia.	529
	Oktri Mohammad Firdaus, Nanan Sekarwana, T.M.A. Ari Samadhi and Kah Hin Chai	
60	Development of the Remote Instrumentation Systems Based on Embedded Web to Support Remote Laboratory	537
	F. Yudi Limpraptono and Irmalia Suryani Faradisa	
61	Enhancing University Library Services with Mobile Library Information System	545
	Singgih Lukman Anggana and Stephanus Eko Wahyudi	

62	Multi Level Filtering to Classify and Block Undesirable Explicit Material in Website	553
	Mohammad Iqbal, Hifshan Riesvicky, Hasma Rasjid and Yulia Charli	
63	Query Rewriting and Corpus of Semantic Similarity as Encryption Method for Documents in Indonesian Language.	565
	Detty Purnamasari, Rini Arianty, Diana Tri Susetianingtias and Reni Diah Kusumawati	
64	Securing Client-Server Application Design for Information System Inventory	573
	Ibnu Gunawan, Djoni Haryadi Setiabudi, Agustinus Noertjahyana and Yongky Hermawan	
Part VI Technology Innovation in Information, Modelling and Mobile Applications		
65	Analyzing Humanitarian Logistic Coordination for Disaster Relief in Indonesia.	583
	Tanti Octavia, I. Gede Agus Widyadana and Herry Christian Palit	
66	Surakarta Cultural Heritage Management Based on Geographic Information Systems	589
	Ery Dewayani and M. Viny Christanti	
67	Gray Code of Generating Tree of n Permutation with m Cycles	599
	Sulistyo Puspitodjati, Henny Widowati and Crispina Pardede	
68	Android and iOS Hybrid Applications for Surabaya Public Transport Information.	607
	Djoni Haryadi Setiabudi and Lady Joanne Tjahyana	
69	Games and Multimedia Implementation on Heroic Battle of Surabaya: An Android Based Mobile Device Application.	619
	Andreas Handojo, Resmana Lim, Justinus Andjarwirawan and Sandy Sunaryo	
70	Streamlining Business Process: A Case Study of Optimizing a Business Process to Issue a Letter of Assignment for a Lecturer in the University of Surabaya.	631
	S.T. Jimmy	
71	Design of Adventure Indonesian Folklore Game	639
	Kartika Gunadi, Liliana and Harvey Tjahjono	

72	Measuring the Usage Level of the IE Tools in SMEs Using Malcolm Baldrige Scoring System	649
	I. Nyoman Sutapa, Togas W.S. Panjaitan and Jani Rahardjo	
73	Enumeration and Generation Aspects of Tribonacci Strings.	659
	Maukar, Asep Juarna and Djati Kerami	
74	A Leukocyte Detection System Using Scale Invariant Feature Transform Method	669
	Lina and Budi Dharmawan	
75	The Diameter of Enhanced Extended Fibonacci Cube Interconnection Networks.	675
	Ernastuti, Mufid Nilmada and Ravi Salim	
76	Prototype Design of a Realtime Monitoring System of a Fuel Tank at a Gas Station Using an Android-Based Mobile Application	685
	Riny Sulityowati and Bayu Bhahtra Kurnia Rafik	

Proceedings of Second International Conference on
Electrical Systems, Technology and Information 2015
(ICESTI 2015)

Pasila, F.; Tanoto, Y.; Lim, R.; Santoso, M.; Pah, N.D.
(Eds.)

2016, XIV, 692 p. 384 illus., 112 illus. in color.,
Hardcover

ISBN: 978-981-287-986-8