

# **2016 2nd International Conference on Science and Technology-Computer (ICST 2016)**

**Yogyakarta, Indonesia  
27-28 October 2016**



**IEEE Catalog Number: CFP16WOF-POD  
ISBN: 978-1-5090-4358-3**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

**\*\*\* *This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16WOF-POD
ISBN (Print-On-Demand):	978-1-5090-4358-3
ISBN (Online):	978-1-5090-4357-6

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## TABLE OF CONTENTS

<b>Numerical Simulation of The Effect of Axial Distance Between Two Rotors in Counter-Rotating Wind Turbines.....</b>	1
Yosua Heru Irawan, M. Agung Bramantya	
<b>Block-based Tchebichef Image Watermarking Scheme using Psychovisual Threshold.....</b>	6
Ferda Ernawan, Muhammad Nomani Kabir, Mohamad Fadli, Zuriani Mustaffa	
<b>Exploring Mobile Wallet Adoption in Indonesia Using UTAUT2 An Approach from Consumer Perspective.....</b>	11
Simon Megadewandanu, Suyoto, Pranowo	
<b>CPU and Memory Performance Analysis on Dynamic and Dedicated Resource Allocation using XenServer in Data Center Environment.....</b>	17
Haydar Ali Ismail, Mardhani Riasetiawan	
<b>Comparison of Fuzzy Filters on Synthetic Aperture Radar Image.....</b>	23
Ardhi W Santoso, Dwi Pebrianti, Tien Sze Lim, Luhur Bayuaji, Habibah Lateh, Jasni M Zain	
<b>Spinal Curvature Determination from Scoliosis X-Ray Image Using Sum of Squared Difference Template Matching.....</b>	29
Bagus Adhi Kusuma, Hanung Adi Nugroho, Sunu Wibirama	
<b>Automated Detection and Classification Techniques of Acute Leukemia using Image Processing: A Review.....</b>	35
R.G Bagasjvara, Ika Candradewi, Sri Hartati, Agus Harjoko	
<b>Combination Schemes Reversible Data Hiding for Medical Images.....</b>	44
Aulia Arham, Hanung Adi Nugroho, Teguh Bharata Adjji	
<b>State of Charge Estimation of Lithium Polymer Battery using ANFIS and IT2FLS.....</b>	50
Wahyuni Eka Sari, Oyas Wahyunggoro, Silmi Fauziati, Adha Imam Cahyadi	
<b>Evaluation of XBee-Pro Transmission Range for Wireless Sensor Network's Node under Forested Environments Based on Received Signal Strength Indicator (RSSI).....</b>	56
Iswandi, Herlina Tri Nastiti, Ina Eprilia Praditya, I Wayan Mustika	
<b>An Optimal Input for Role-Playing Game's Combat Pace using an Active Time Battle System Algorithm.....</b>	61
Agrivian Anditya, Agus Sihabuddin	
<b>Geographical Information System for Mapping Accident-Prone Roads and Development of New Road Using Multi-Attribute Utility Method.....</b>	66
Anik Vega Vitianingsih, Dwi Cahyono	
<b>Overview on computational-based B-cell epitope prediction: dataset, method and accuracy.....</b>	71
Binti Solihah, Afiahayati	
<b>Convolutional Neural Network Implementation for Image-Based Salak Sortation.....</b>	77
Rismiyati, Azhari SN	
<b>On the New-Message Notification of Information Systems.....</b>	83
Prastowo B. N., Dhewa O. A., Putro N. A. S.	
<b>Feature Extraction and Classification of the Indonesian Syllables Using Discrete Wavelet Transform and Statistical Features.....</b>	88
Domy Kristomo, Risanuri Hidayat, Indah Soesanti	

<b>State of Charge (SOC) and State of Health (SOH) Estimation on Lithium Polymer Battery via Kalman Filter.....</b>	93
Paris Ali Topan, M. Nisvo Ramadan, Ghufron Fathoni, Adha Imam Cahyadi, Oyas Wahyunggoro	
<b>Simulation and Experiment Based Optimization of Calligraphy Manufacturing Using a 5-Axis CNC Milling Machine.....</b>	97
Muhammad Akhsin Muflikhun, Muslim Mahardika, Subarmono, Heru Santoso Budi Rochardjo	
<b>Enhancing Quality of Service for eGovernment Interoperability Based On Adaptive Ontology.....</b>	102
I Wayan Ordiyasa, Lukito Edi Nugroho, Paulus Insap Santosa, Wahyudi Kumorotomo	
<b>Indonesian Traditional Dance Motion Capture Documentation.....</b>	108
Ega Hegarini, Dharmayanti, Abdus Syakur	
<b>Combat Aircraft Effectiveness Assessment Using Hybrid Multi-Criteria Decision Making Methodology</b>	112
Agus Suryo Wibowo, Adhistya Erna Permanasari, Simi Fauziati	
<b>Design Optimization of Tri Core PM Linear Generator Using SA and FPA for Wave Energy Conversion System in South Coast of Java Island.....</b>	118
F.D.Wijaya, Sarjiya, Muhammad Rifa'i P.S, Kukuh Daud P.	
<b>Development of Semi-Supervised Named Entity Recognition to Discover New Tourism Places.....</b>	124
Khurniawan Eko Saputro, Sri Suning Kusumawardani, Silmi Fauziati	
<b>Increasing the Security of MP3 Steganography Using AES Encryption and MD5 Hash Function.....</b>	129
Rini Indrayani, Hanung Adi Nugroho, Risanuri Hidayat, Irfan Pratama	
<b>Power Estimation of G.A. Siwabessy Multi-Purpose Reactor at Start-Up Condition Using Artificial Neural Network with Input Variation.....</b>	133
Nazrul Effendy, Nur Chalim Wachidah, Balza Achmad, Prasojo Jiwandono, Muhammad Subekti	
<b>A Visual Recognition Supporting Tool for Mapping Environmental Data using Handheld Measurement Instruments.....</b>	139
Luthfi Zharif, Balza Achmad, Faridah, Mohammad Kholid Ridwan	
<b>Palm Oil Plantation Area Clusterization for Monitoring.....</b>	145
Aufaclav Frisky, Agus Harjoko	
<b>SHA-2 and SHA-3 Based Sequence Randomization Algorithm.....</b>	150
Kuntoro Adi Nugroho, Arimaz Hangga, I Made Sudana	
<b>Optimal Cell Selection Scheme in Femtocell Networks Using Bacterial Foraging Optimization Algorithm.....</b>	155
Sahirul Alam, I Wayan Mustika, Selo, Heng Lalin	
<b>Infant's Cry Sound Classification using Mel-Frequency Cepstrum Coefficients Feature Extraction and Backpropagation Neural Network.....</b>	160
Yesy Diah Rosita, Hartarto Junaedi	
<b>Epilepsy Detection On EEG Data Using Backpropagation, Firefly Algorithm and Simulated Annealing</b>	167
Auli Damayanti, Asri Bektii Pratiwi, Miswanto	
<b>Data Classification for Air Quality on Wireless Sensor Network Monitoring System Using Decision Tree Algorithm.....</b>	172
Bambang Sugiarto, Rika Sustika	
<b>Implementation of Multi-criteria Collaborative Filtering on Cluster Using Apache Spark.....</b>	177
Ardhi Wijayanto, Edi Winarko	

<b>Fingerprint Authentication System Using Back-Propagation with Downsampling Technique.....</b>	182
Peter Juma Ochieng, Kani, Hastuadi Harsa, Firmansyah	
<b>A Study on Algorithms of Pupil Diameter Measurement.....</b>	188
Juni Nurma Sari, Hanung Adi N, Lukito Edi N, P. Insap Santosa, Ridi Ferdiana	
<b>Stereo Camera – based 3D Object Reconstruction Utilizing Semi-Global Matching Algorithm.....</b>	194
M.S.Hendriyawan Achmad, Widya Setia Findari, Nurnajmin Qasrina Ann, Dwi Pebrianti, Mohd Razali Daud	
<b>Rating Of Indonesian Sinetron Based On Public Opinion In Twitter Using Cosine Similarity.....</b>	200
Vincentius Riandaru Prasetyo, Edi Winarko	