

2016 International Conference on Information & Communication Technology and Systems (ICTS 2016)

**Surabaya, Indonesia
12 October 2016**



**IEEE Catalog Number: CFP1689Y-POD
ISBN: 978-1-5090-1382-1**

**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:	CFP1689Y-POD
ISBN (Print-On-Demand):	978-1-5090-1382-1
ISBN (Online):	978-1-5090-1381-4

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

KN: Keynote Speech

KN.1 Innovation Through Principles
Shengdong Zhao
pp. i

KN.2 Process Model Discovery for Process Aware Information Systems
Riyanarto Sarno
pp. iii-x

T1: Distributed System, Computer Network and Architecture, Network Security, Infrastructure Systems and Services, Ubiquitous System and Infrastructure, Digital Forensic, High Performance Computing, Parallel Programming, Information Security

T1.1 Digital Forensic Analysis of Telegram Messenger on Android Devices
Gandeva Bayu Satrya, Philip T. Daely and Muhammad Arief Nugroho
pp. 1-7

T1.2 Sales Forecasting Using Holt-Winters in Enterprise Resource Planning At Sales and Distribution Module
Vicky Sugiarto, Riyanarto Sarno and Dwi Sunaryono
pp. 8-13

T1.3 Determining Bonus in Enterprise Resource Planning At Human Resource Management Module Using Key Performance Indicator
Dwi Suseno, Riyanarto Sarno and Dwi Sunaryono
pp. 14-19

T1.4 Account Charting and Financial Reporting At Accounting Module on Enterprise Resource Planning Using Tree Traversal Algorithm
Riyanarto Sarno, Ashari Adhitama and Sarwosri
pp. 20-25

T1.5 Dynamics Simulation Model of Demand and Supply Electricity Energy Public Facilities and Social Sector Case Study East Java
Ardhya Putra, Riyanarto Sarno and Erma Suryani
pp. 26-33

T1.6 HTTP Communication Latency Via Cellular Network for Intelligent Transportation System Applications
Michael Ardita, Suwadi Suwadi, Achmad Affandi and E Endroyono
pp. 34-38

- T1.7 Clustering of SSH Brute-Force Attack Logs Using k-Clique Percolation
Hudan Studiawan, Baskoro Adi Pratomo and Radityo Anggoro
pp. 39-42

T2: Human-Computer Interaction, Multimedia Application

- T2.1 Design and Implementation of Virtual Indonesian Musical Instrument (VIMi)
Application Using Leap Motion Controller
Ridho Rahman Hariadi and Imam Kuswardayan
pp. 43-48
- T2.2 Augmented Reality Application for Cockroach Phobia Therapy Using
Everyday Objects as Marker Substitute
Fiandra Fatharany, Ridho Rahman Hariadi, Darlis Herumurti and Anny
Yuniarti
pp. 49-52
- T2.3 Implementation of Face Detection and Recognition of Indonesian Language in
Communication Between Humans and Robots
Muhtadin and Surya Sumpeno
pp. 53-57
- T2.4 Resize My Image: A Mobile App for Interactive Image Resizing Using Multi
Operator and Interactive Genetic Algorithm
Anny Yuniarti, Stefanus Anggara and Bilqis Amaliah
pp. 58-62

T3: Pattern Recognition, Intelligent Systems, Knowledge Data Discovery, Bioinformatics/Biomedical Apps, Content-Based Multimedia Retrieval, Remote Sensing, Image Processing, Big Data, Information Retrieval, Robotic, Modelling Simulation, Applied Computing

- T3.1 Detecting Source Code Plagiarism on Introductory Programming Course
Assignments Using a Bytecode Approach
Oscar Karnalim
pp. 63-68
- T3.2 Computer-Aided Screening for Acute Leukemia blood infection using gray-
level intensity
Hatungimana Gervais and Darlis Herumurti
pp. 69-74
- T3.3 Integration GLCM and Geometric Feature Extraction of Region of Interest for
Classifying Tuna
Wanvy Arifha Saputra and Darlis Herumurti
pp. 75-79

- T3.4 Face Recognition Based on Extended Symmetric Local Graph Structure
Andhik Yunanto and Darlis Herumurti
pp. 80-84
- T3.5 Classification of EEG Signals Using Common Spatial Pattern-Principle Component Analysis and Interval Type-2 Fuzzy Logic System
William Yaputra Budiman, Handayani Tjandrasa and Dini Navastara
pp. 85-89
- T3.6 Job-Shop Scheduling Model for Optimization of the Double Track Railway Scheduling (Case Study: Solo-Yogyakarta Railway Network)
Sarngadi Palgunadi, Dian Supraba and Bambang Harjito
pp. 90-95
- T3.7 Koi Fish Classification based on HSV Color Space
Dhian Kartika and Darlis Herumurti
pp. 96-100
- T3.8 Adaptive Image Compression Using Adaptive Huffman and LZW
Djuned F Djusdek, Hudan Studiawan and Tohari Ahmad
pp. 101-106
- T3.9 Indonesia Scholarship Selection Framework Using Fuzzy Inferences System Approach. Case Study: "Bidik Misi" Scholarship Selection
Luther Latumakulita, Fajar Purnama, Tsuyoshi Usagawa, Sary Paturusi and Delta Prima
pp. 107-113
- T3.10 Using Google Trend Data in Forecasting Number of Dengue Fever Cases with ARIMAX Method Case Study: Surabaya, Indonesia
Wiwik Anggraeni and Laras Aristiani
pp. 114-118
- T3.11 Maximum Entropy Principle for Exudates Segmentation in Retinal Fundus Images
Igi Ardiyanto, Ratna Lestari Budiani Buana and Hanung Adi Nugroho
pp. 119-123
- T3.12 Pressure Control of A Wheeled Wall Climbing Robot Using Proportional Controller
Novia Andriani, Yunafi'atul Aniroh, Muhammad Maulida and Miftahul Alfafa
pp. 124-128
- T3.13 The Electric Wheelchair Control Using Electromyography Sensor Of Arm Muscle
Rudi Hardiansyah, Yunafi'atul Aniroh, Arista Ainurrohman and Farida Tyastuti
pp. 129-134

- T3.14 Reduce Noise in The Binary Image Using Non Linear Spatial Filtering of Mode
Teady Matius Surya Mulyana
pp. 135-139
- T3.15 Heart Murmurs Extraction Using the Complete Ensemble Empirical Mode Decomposition and the Pearson Distance Metric
Jusak Jusak, Ira Puspasari and Pauladie Susanto
pp. 140-145
- T3.16 Development of Early Detection of Complication Organ Kidney Disease Caused by Diabetes Mellitus Based on Color Constancy
Agus Prayitno, Adhi Wibawa and Mauridhi Purnomo
pp. 146-149
- T3.17 Digital Color Classification for Colorful Cross Stitch Threads Using RGB+Euclidean Distance and LAB+CIE94
David Setiabudi, Sani M. Isa and Bambang Heru Iswanto
pp. 150-156
- T3.18 Application Development for Recognizing Type of Infant's Cry Sound
Welly Limantoro, Chastine Fatichah and Umi Laili Yuhana
pp. 157-161
- T3.19 Opinion Classification Using Maximum Entropy and K-Means Clustering
Amir Hamzah and Naniek Widyastuti
pp. 162-166
- T3.20 Enriching English Into Sundanese and Javanese Translation List Using Pivot Language
Arie Suryani, Isye Ariesianti, Banu Yohanes, Muhammad Subair, Sari Dewi Budiwati and Bagus Rintyarna
pp. 167-171
- T3.21 Mixed Vapour Identification Using Partition Column-QCMs and Artificial Neural Network
Eva Agustin, Muhammad Rivai and Achmad Arifin
pp. 172-177
- T3.22 BencanaVis Visualization and Clustering of Disaster Readiness Using K Means with R Shiny A Case Study for Disaster, Medical Personnel and Health Facilities Data at Province Level in Indonesia
Renny Kusumawardani, Irmasari Hafidz and Septa Putra
pp. 178-186
- T3.23 Dynamics Simulation of Air Passenger Forecasting and Passenger Terminal Capacity Expansion Scenario in Yogyakarta Airport
Bilqis Amaliah, Azizha Zeinita and Erma Suryani
pp. 187-192

- T3.24 Feature Extraction Using Statistical Moments of Wavelet Transform for Iris Recognition
Nanik Suciati, Afdhal Anugrah, Chastine Fatichah, Handayani Tjandrasa, Agus Arifin, Diana Purwitasari and Dini Navastara
pp. 193-198
- T3.25 Generalized Regression Neural Network for Predicting Traffic Flow
Joko Buliali, Victor Hariadi, Ahmad Saikhu and Saprina Mamase
pp. 199-202

T4: Software Engineering, Formal Methods, E-Learning, Enterprise Information System, Risk Management, Geographic Information System

- T4.1 The Development of Method of The Enhancement of Technical Factor (TF) and Environmental Factor (EF) to The Use Case Point (UCP) to Calculate The Estimation of Software's Effort
Sarwosri, Muhammad Jabir Al Haiyan, Aditya Putra Ferza and Mujahid Husein
pp. 203-207
- T4.2 Substation Placement Optimization Method Using Delaunay Triangulation Algorithm and Voronoi Diagram In East Java Case Study
Pradipta Ghusti, Riyanarto Sarno and RV Hari Ginardi
pp. 208-213
- T4.3 Visual GUI Testing in Continuous Integration Environment
Fachrul Pralienka Bani Muhamad, Riyanarto Sarno, Adhatus Solichah Ahmadiyah and Siti Rochimah
pp. 214-219
- T4.4 A Study of Students' Satisfaction Toward Blended Learning Implementation in Higher Education Institution in Indonesia
Sary Paturusi, Arie Lumenta and Tsuyoshi Usagawa
pp. 220-225
- T4.5 Sugarcane Variety Identification Using Dynamic Weighted Directed Acyclic Graph Similarity
Adi Heru Utomo, Riyanarto Sarno and RV Hari Ginardi
pp. 226-230
- T4.6 Business Process Model Similarity Analysis Using Hybrid PLSA and WDAG Methods
Indra Gita Anugrah and Riyanarto Sarno
pp. 231-236
- T4.7 Optimization Solar Farm Site Selection Using Multi-Criteria Decision Making Fuzzy AHP and PROMETHEE: Case Study in Bali
Kadek Aldrin Wiguna, Riyanarto Sarno and Nurul Fajrin Ariyani
pp. 237-243

- T4.8 Student Perceptions of Virtual Programming Lab on E-Learning Class at University of Sam Ratulangi
Sumenge Tangkawarouw Godion Kaunang, Tsuyoshi Usagawa, Sary Paturusi, Alwin Sambul, Glanny Mangindaan and Brave Sugiarso
pp. 244-248
- T4.9 Fraud Detection on Event Logs of Goods and Services Procurement Business Process Using Heuristics Miner Algorithm
Dewi Rahmawati, Muhammad Ainul Yaqin and Riyanarto Sarno
pp. 249-254
- T4.10 The Development of Quality Gates Instrument for e-Learning Implementation
Feby Artwodini Muqtadiroh, Hanim Maria Astuti and Rian Triadi
pp. 255-261
- T4.11 Designing a Gamification for Monitoring Surabaya City Development
Nur Rakhmawati and Bagus Fibrianto
pp. 262-265
- T4.12 Poverty Classification Using Analytic Hierarchy Process and K-Means Clustering
Sarwosri, Dwi Sunaryono, Rizky Januar Akbar and Risky Setiawan
pp. 266-269
- T4.13 Development of an Online System to Manage Hajj Pilgrims in Saudi Arabia
Gofran Sami and Wajdi Alhakami
pp. 270-276