2013 International Conference on Advanced Computer Science and Information Systems

(ICACSIS 2013)

Bali, Indonesia
28-29 September 2013

IEEE

IEEE Catalog Number: CFP1319R-POD
ISBN: 978-1-4799-2489-9

Table of Contents

Welcome Message from General Chairs i

Welcome Message from Dean of Faculty of Computer Science Universitas Indonesia iii

Committee v

Program At Glance vii

Table of Content ix

Plenary Lectures

Effective Approaches in Human Action Recognition 1

Xue Li, Quan Z. Sheng, ChaoyiPang, Xin Zhao, and Sen Wang

High-Precision Position Estimation in Indoor Environments 9

Marcel Kyas

Digital Library and Distance Learning

Architecture of E-Learning System based on LTSA 15

Faisal Ibrahim Hadiputra and Yani Widyani

The Study of Dynamic Delivery Adaptive Learning Content in E-learning Personalization Using Text Mining and Ontology Approach 21

Mira Suryani and Zainal A. Hasibuan

Enterprise Computing

Social Commerce in E-Business: Challenges and Guidelines for Successful Adoption 27

Choo Seah Ling and Wahidah Husain

Exploration on Software Complexity Metrics for Business Process Model and Notation 31

Iis Solichah, Margaret Hamilton, Petrus Mursanto, Caspar Ryan, and Mikhail Perepletchikov

Centroid Based Adaptive Random Testing for Object Oriented Program 39

I Putu Edy Suardiyana Putra and Petrus Mursantov

E-Government

e-Rakorev: Towards Governance Planning, Monitoring and Evaluation of Urban Development for Manado SmartCity 47

Stanley Karouw and Hans Wowor

A Study on the Preparedness of Information Security Framework Area based on the Assessment of Information Security Index in Ministry of XYZ 55

Mufti Rizal and Yudho Giri Sucahyo

Mapping the Certification Authority for e-Government Procurement System into eGovAMAN Framework 61

Edit Prima, Yudho Giri Sucahyo, and Zainal A. Hasibuan

Do Knowledge Management Infrastructures Support Organizational Knowledge Management Processes? A Case Study on Indonesian Telecommunication Company 67

Ida Ayu Kadek Trisnanty and Putu Wuri Handayani

E-government Development: Online Industrial Business License Services System in Indonesia 77

Surya Barokah, Yani Nurhadryani, and Herly Nurrahmi

Identifying Critical Success Factors for Knowledge Management Implementation in Organization: A Survey Paper 83

Pinkie Anggia, Dana Indra Sensuse, Yudho Giri Sucahyo, and Siti Rohajawati

Formal Method and Software Engineering

Human Behavior Conceptual Model in Collaborative Software Development Product Quality 89

T. F. Kusumasari, K. Surendro, H. Sastramihardja, I. Supriana

Game Development Life Cycle Guidelines 95

Rido Ramadan and Yani Widyani

Architecture, Computer Networks, and High Performance Computing

Hybrid RAM System's Development APIs 101

Hidayat Febiansyah and Jin Baek Kwon

2D Visualisation of Electric Field Distribution in Human Head with Nasopharynx Cancer: using MATLAB and COMSOL Multiphysics 107

Ahmad Yulianto, Ariono Verdianto, Arifin Musthafa, and Djarwani S. Soejoko

Management of Identity and Credentials in Mobile Cloud Environment 113

Debasish Jana and Debasis Bandyopadhyay

Channel Allocation for Social Networking Features on Publish/Subscribe-based Mobile Application 119

Alfian Ramadhan and Achmad Imam Kistijantoro

An LMI Approach to Guaranteed Cost Filter for Uncertain Neutral Systems with Time-varying Delay 125

Erwin Susanto and Mitsuaki Ishitobi

Performance Testing of PDR using Common Sensors on a Smartphone 131

Azkario R. Pratama, Widyawan, and Risanuri Hidayat

Implementation of CUDA GPU-Based Parallel Computing on Smith-Waterman Algorithm to Sequence Database Searches 137

Alhadi Bustamam, Gianinna Ardaneswari, and Dian Lestari

Development of Augmented Reality (AR) for Machining Simulation of 3-axis CNC Milling 143

Gandjar Kiswanto and Dedy Ariansyah

Vehicle Counting and Speed Measurement Using Headlight Detection 149

Ibnu Sina, Ari Wibisono, Adi Nurhadiyatna, Benny Hardjono, Wisnu Jatmiko, and Petrus Mursanto

Context Aware Door Access Control on Private Room using Fuzzy Logic : Case Study of Smart House 155

Yulistiyan Wardhana, Bob Hardian, Gladhi Guarddin, and Hanif Rasyidi

Simulation of Intelligent Unmanned Aerial Vehicle (UAV) For Military Surveillance 161

M. Anwar Ma'sum, M. Kholid Arrofi, Grafika Jati, Futuhal Arifin, M. Nanda Kurniawan

An ECG 12-Lead Hardware with SPIHT Compressing Scheme 167

Eka Puji Widiyanto, Sani M. Isa, M. Iqbal Tawakal, M. Nanda Kurniawan, Wisnu Jatmiko, and Petrus Mursanto

Information Retrieval

Speech/Music Indexing for Audio Life-Logs from Portable Device Record 173

Yali Zheng, Yoshifumi Chisaki, and Tsuyoshi Usagawa

New Strategy for Turbo Similarity Searching: Implementation and Testing 179

Nurul Malim, Yong Pei-Chia, and Shereena M. Arif

Predictive Genotype based on Phenotype using The Association Rules Mining 185

Ranny, Ito Wasito, Mujiono Sadikin, and Teny Handhayani

Tajweed Checking System to support recitation 189

Ahsiah I., Noor N. M., and Idris M. Y. I.

Indonesian Social Media Sentiment Analysis with Sarcasm Detection 195

Edwin Lunando and Ayu Purwarianti

Performing Chart Interpretation using Lexical Selection in Indonesian Language 199

Wahyu Pratomo and Ari Moesriami Barmawi

Speech Intelligibility Improvement of Cochlear Implant using Release of Masking 207

Dhany Arifianto

Improving Coherence by Reordering the Output of Extractive Summarization using Centering Theory Through Genetic Algorithm 213

Arlisa Yuliawati and Ruli Manurung

Poetry Generation for Bahasa Indonesia using a Constraint Satisfaction Approach 219

Fam Rashel and Ruli Manurung

IT Governance

Internet User Trust Measurement Analysis Towards E-Commerce System in Indonesia 225

Bimo Harsandi, James Purnama, Moh. A. Amin Soetomo, and Maulahikmah Galinium

On The Design of an IT Valuation and Business Alignment Model using Resource Based View Method and COBIT version 5 231

Mohammad I. H. Siregar, Jaka Sembiring, and Suhardi

Developing IT Investment Management Framework of Government Institution 237

Kingkin Rahayu Ningsih, Jaka Sembiring, Arry Akhmad Arman, and Aciek Ida Wuryandari

Campaign 2.0 : An Analyze of the Utilization Social Network Sites of Political Parties in Indonesia 243

Fahri Amirullah and Yani Nurhadryani

Implementing Integrated Internal Control Life Cycle at Telecom Company 249

Dewi Puspasari and Budi Yuwono

Analysis and Design of Enterprise Resource Planning (ERP) System for Small and Medium Enterprises (SMEs) in The Sales Business Function Area 255

David, Yova Ruldeviyani, and Puspa Indahati Sandhyaduhita

Pattern Recognition and Image Processing

Machine Learning of Forecasting Long-Term Economic Crisis in Indonesia 261

Siti Sa'adah, The Houw Liong, and Adiwijaya

Cattle's Fur Detection in Complex Background Based on Graph Cuts 267

Hisyam Fahmi, Ary Novianto, and Aniati Murni Arymurthy

Combining Image and Text Features for Medicinal Plants Image Retrieval 273

Oki Maulana, Yeni Herdiyeni

DNA Sequencing Error Correction Using Spectral Alignment 279

Novaldo Caesar, Wisnu Ananta Kusuma, and Sony Hartono Wijaya

Clustering Metagenome Fragments Using Growing Self Organizing Map 285

Marlinda Vasty Overbeek, Wisnu Ananta Kusuma, Agus Buono

A Classification System for Jamu Efficacy Based on Formula Using Support Vector Machine 291

Arie Fitriawan, Wisnu Ananta Kusuma, and Rudi Heryanto

Decision Support System for Increasing Sustainable Productivity on Fishery Agroindustry Supply Chain 297

Yuliana K. Teniwut and Marimin

Kernel Based Integration of Gene Expression and DNA Copy Number 303

Teny Handhayani, Ito Wasito, Mujiono Sadikin, and Ranny

An Ensemble Incremental Approach of Extreme Learning Machine (ELM) for Paddy Growth Stages Classification Using MODIS Remote Sensing Images 309

Sidik Mulyono, T. A. Pianto, M. Ivan Fanany, and T. Basaruddin

Support Vector Regression Modelling for Rainfall Prediction in Dry Season Based on Southern Oscillation Index and NINO 3.4 315

Gita Adhani, Agus Buono, Akhmad Faqih

Manga Content Extraction Method for Automatic Mobile Comic Content Creation 321

Herman Tolle and Kohei Arai

Feature Selection Using Kernel PCA for Alzheimer's Disease Detection with 3D MR Images of Brain 329

Devvi Sarwinda and Aniati Murni Arymurthy

Performance Evaluation of Two Ways Urban Traffic Control System Based on Macroscopic Hybrid Petri Net Model 335

Muhammad Azzumar, Abdul Halim, and Mulyadi Sinung Harjono

A Multiclass ELM Strategy in Pose-based 3D Human Motion Analysis 341

Arif Budiman and M. Ivan Fanany

An Automatic Detection Method for High Density Slums based on Regularity Pattern of Housing Using Gabor Filter and GINI Index 347

Nursidik Heru Praptono, Pahala Sirait, M. Ivan Fanany, and Aniati Murni Arymurthy

Fusion of Local Binary Patterns Features for Tropical Medicinal Plants Identification 353

Yeni Herdiyeni and Iyos Kusmana

An Efficient and Effective Robust Algorithm for The Classification of Jakarta Vegetation Area 359

Dyah E. Herwindiati, Sani M. Isa, and Desi Arisandi

Feature Enhancement for Model Selection in Time Series Forecasting 367

Agus Widodo and Indra Budi

Improved Efficient Ellipse Hough Transform for Fetal Head Measurement 375

I Putu Satwika, R. Rahmatullah, Ikhsanul Habibie, Adi Nurhadiyatna, and Wisnu Jatmiko

Plasmodium Parasites Detection on Red Blood Cell Image for The Diagnosis of Malaria Using Double Thresholding 381

Jullend Gatc, Febri Maspiyanti, Devvi Sarwinda, and Aniati Murni Arymurthy

Combining Depth Image and Skeleton Data from Kinect for Recognizing Words in The Sign System for Indonesian Language (SIBI [Sistem Isyarat Bahasa Indonesia]) 387

Erdefi Rakun, Mirna Adriani, I Wayan Wiprayoga, Ken Danniswara, and Andros Tjandra

Evaluation of SIFT and SURF Features in The Songket Recognition 393

Dominikus Willy, Ary Noviyanto, and Aniati Murni Arymurthy

Palmprint Authentication in Smartphone Using Phase-Only Correlation Method 397

Nabilah Shabrina, Saiful Akbar, and Peb Ruswono Aryan

I-PEDIA: Mobile Application for Paddy Disease Identification Using Fuzzy Entropy and Probabilistic Neural Network 403

Kholis Majid, Yeni Herdiyeni, and Aunu Rauf

Preprocessing of Imbalanced Breast Cancer Data using Feature Selection Combined with Over-Sampling Technique for Classification 407

Janjira Jojan and Anongnart Srivihok

Geospatial Data Extrapolation Using Data Mining Techniques and Cellular Automata 413

Ahmad Zuhdi, Aniati Murni Arymurthy, and Heru Suhartanto

Stochastic Regular Grammar-based Learning for Basic Dance Motion Recognition 419

Yaya Heryadi, M. Ivan Fanany, and Aniati Murni Arymurthy

White Blood Cell Segmentation for Fresh Blood Smear Images 425

Firdaus Ismail Sholeh

Adaptive Multi Codebook Fuzzy Neuro Generalized Learning Vector Quantization for Sleep Stages Classification 431

Indra Hermawan, M. Iqbal Tawakal, I Made Agus Setiawan, Ikhsanul Habibie, and Wisnu Jatmiko

Intelligent K-Means Clustering for Expressed Genes Identification Linked to Malignancy of Human Colorectal Carcinoma 437

M. Anwar Ma'sum, Ito Wasito, and Adi Nurhadiyatna

Particle Filter for 3D Fingertips Tracking from Color and Depth Images with Occlusion Handling 445

Derry Alamsyah and M. Ivan Fanany

Improved Vehicle Speed Estimation Using Gaussian Mixture Model and Hole Filling Algorithm 451

Adi Nurhadiyatna, Benny Hardjono, Ari Wibisono, Ibnu Sina, Wisnu Jatmiko, M. Anwar Ma'sum, and Petrus Mursanto