

2017 5th International Conference on Information and Communication Technology (ICoICT 2017)

**Melaka, Malaysia
17 – 19 May 2017**



**IEEE Catalog Number: CFP17ICZ-POD
ISBN: 978-1-5090-4913-4**

**Copyright © 2017 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:	CFP17ICZ-POD
ISBN (Print-On-Demand):	978-1-5090-4913-4
ISBN (Online):	978-1-5090-4912-7

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

ENERGY EFFICIENT IOT THERMOMETER BASED ON FUZZY LOGIC FOR FEVER MONITORING	1
<i>Satria Mandala, Novian A. Suwastika, M. S. Mubarak, Shamila</i>	
PROTECTION AGAINST CODE EXPLOITATION USING ROP AND CHECK-SUMMING IN IOT ENVIRONMENT	7
<i>Chittaranjan Hota, Rajesh Shrivastava, Prashast Shrivastava</i>	
CHARACTERIZATION OF UNDERWATER OPTICAL DATA TRANSMISSION PARAMETERS UNDER VARYING CONDITIONS OF TURBIDITY AND WATER MOVEMENT	13
<i>Matt E. G. Mital, Michael V. C. Olarte, Neil B. S. Ong, Diane C. F. Ortega, Mark T. R. Uy, Josyl M. B. Rocamora, Edison A. Roxas, Angelo R. Dela Cruz, Ryan R. P. Vicerra</i>	
DEVELOPMENT OF A VEHICLE AND PEDESTRIAN SIMULATION ENVIRONMENT WITH M.I.S.O. FUZZY LOGIC CONTROLLED INTELLIGENT TRAFFIC LIGHT SYSTEM	19
<i>Kimberly A. C. Basconcillo, Diuse J. B. Benitez, Elfred A. S. Cantuba, Renz E. L. Enriquez, Chester R. I. Falcon, Kanny K. D. Serrano, Emmanuel C. Guevara, Angelo R. Dela Cruz, Ryan R. P. Vicerra</i>	
HIGHEST ORDER VORONOI DIAGRAM OPTIMIZATION	25
<i>Daud S. Christiano, Kiki M. Adhinugraha, Anisa Herdiani, Sultan Alamri</i>	
A STUDY OF CLOUD BASED CONNECTED CAR SERVICES	32
<i>Sumendra Yogarayan, Afizan Azman, Siti F. A. Razak, Kirbana J. Raman, Mohd F. A. Abdullah, Siti Z. Ibrahim, Anang Hudaya Amin, Kalaiaresi S. Muthu</i>	
A JAVA IMPLEMENTATION OF PAILLIER HOMOMORPHIC ENCRYPTION SCHEME	38
<i>Radjab Harerimana, Syh-yuan Tan, Wei-chuen Yau</i>	
A MALAY NAMED ENTITY RECOGNITION USING CONDITIONAL RANDOM FIELDS	44
<i>Muhammad S. Salleh, Siti A. Asmai, Halizah Basiron, Sabrina Ahmad</i>	
EXPERIMENTS ON COREFERENCE RESOLUTION FOR INDONESIAN LANGUAGE WITH LEXICAL AND SHALLOW SYNTACTIC FEATURES	50
<i>Gilang J. Suherik, Ayu Purwarianti</i>	
CO-OCCURRENCE TECHNIQUE AND DICTIONARY BASED METHOD FOR INDONESIAN THESAURUS CONSTRUCTION	55
<i>Rizka W. Sholikah, Agus Z. Arifin, Diana Purwitasari, Chastine Fatichah</i>	
HYBRID SENTIMENT AND NETWORK ANALYSIS OF SOCIAL OPINION POLARIZATION	61
<i>Andry Alamsyah, Fidocia Adityawarman</i>	
SENTIMENT ANALYSIS USING LATENT DIRICHLET ALLOCATION AND TOPIC POLARITY WORDCLOUD VISUALIZATION	67
<i>Mohammad F. A. Bashri, Retno Kusumaningrum</i>	
TRAINING DATA OPTIMIZATION STRATEGY FOR MULTICLASS TEXT CLASSIFICATION	72
<i>Muhammad D. N. Arusada, Novi A. S. Putri, Andry Alamsyah</i>	
ANALYSIS OF THE NUMBER OF ANTS IN ANT COLONY SYSTEM ALGORITHM	77
<i>Mustafa M. Alobaedy, Ali A. Khalaf, Ishola D. Muraina</i>	
WORTH EAT: AN INTELLIGENT APPLICATION FOR RESTAURANT RECOMMENDATION BASED ON CUSTOMER PREFERENCE (CASE STUDY: FIVE TYPES OF RESTAURANT IN TANGERANG SELATAN REGION, INDONESIA)	82
<i>Ditdit N. Utama, Luqman I. Lazuardi, Hersy A. Qadrya, Bella M. Caroline, Tris Renanda, Atthiya P. Sari</i>	
A COMBINATION OF INDIVIDUAL MODEL ON MEMORY-BASED GROUP RECOMMENDER SYSTEM TO THE BOOKS DOMAIN	86
<i>Hafidz S. Ahmad, Dade Nurjanah, Rita Rismala</i>	
EVALUATING FUNCTIONAL REQUIREMENTS-BASED COMPOUND CRITIQUING ON CONVERSATIONAL RECOMMENDER SYSTEM	92
<i>Z. K. A. Baizal, Yusza R. Murti, Adiwijaya</i>	
ENGINEERING LOCAL GOVERNMENT FINANCIAL SERVICE SYSTEM UNDER GOOD GOVERNANCE PRINCIPLES - CASE STUDY: CIMAHI GOVERNMENT CITY	98
<i>Haris Santika, Suhardi, Purnomo Yustianto</i>	
THE IMPROVEMENT OF INDONESIAN NEWS CURATOR CLASSIFICATION IN TWITTER	104
<i>Jaka E. Sembodo, Erwin B. Setiawan, Z. A. Baizal</i>	
ENERGY EFFICIENT AND DELAY-AWARE ADAPTIVE SLOT ALLOCATION MEDIUM ACCESS CONTROL PROTOCOL FOR WIRELESS BODY AREA NETWORK	111
<i>Fasee Ullah, Abdul H. Abdullah, Marina M. Arshad, Kashif N. Qureshi</i>	

A SURVEY ON OPTIMISTIC FAIR EXCHANGE PROTOCOL AND ITS VARIANTS	117
<i>Jia-ch'ng Loh, Swee-huay Heng, Syh-yuan Tan</i>	
THE PERFORMANCE OF OPENMP ARCHITECTURE FOR SIMULATING FIRE SPREADING IN FOREST AREA BY CELLULAR AUTOMATA.....	123
<i>Mulyani, Novella D. Putri, P. H. Gunawan</i>	
OPENMP ARCHITECTURE TO SIMULATE 2D WATER OSCILLATION ON PARABOLOID.....	128
<i>Sandra Juliati, P. H. Gunawan</i>	
OPENMP ANALYSIS FOR LID DRIVEN CAVITY SIMULATION USING LATTICE BOLTZMANN METHOD	133
<i>M. N. A. Alamsyah, C. A. Simanjuntak, B. A. R. H. Bagustara, W. A. Pradana, P. H. Gunawan</i>	
AN OPENMP PARALLEL GODUNOV SCHEME FOR 1D TWO PHASE OIL DISPLACEMENT PROBLEM.....	139
<i>Iryanto, P. H. Gunawan</i>	
PARALLEL PROCESSING FOR SIMULATING 2D RADIAL DAMBREAK USING FVM HLLE FLUX ON OPENMP	144
<i>M. R. Pahlevi, P. H. Gunawan</i>	
A DAUBECHIES WAVELET TRANSFORMATION TO OPTIMIZE MODELLING CALIBRATION OF ACTIVE COMPOUND ON DRUG PLANTS	148
<i>Aniq A. Rohmawati, Adiwijaya</i>	
A MODULAR FRAMEWORK OF RIVER WEIR OPERATIONS FOR WATER RESOURCE MANAGEMENT SYSTEMS.....	152
<i>Somrawee Aramkul, Paskorn Champrasert, Benya Suntaranont</i>	
WATER USAGE OPTIMIZATION OF SMART FARM AUTOMATED IRRIGATION SYSTEM USING ARTIFICIAL NEURAL NETWORK	158
<i>John R. Dela Cruz, Renann G. Baldovino, Argel A. Bandala, Elmer P. Dadios</i>	
FUZZY-BASED DECISION SUPPORT SYSTEM FOR SMART FARM WATER TANK MONITORING AND CONTROL	163
<i>John R. Dela Cruz, Renann G. Baldovino, Francisco B. Culibrina, Argel A. Bandala, Elmer P. Dadios</i>	
WATER LEVEL PREDICTION USING ARTIFICIAL NEURAL NETWORK WITH PARTICLE SWARM OPTIMIZATION MODEL.....	167
<i>Pornnapa Panyadee, Paskorn Champrasert, Chuchoke Aryupong</i>	
PREDICTION AND ANOMALY DETECTION OF RAINFALL USING EVOLVING NEURAL NETWORK TO SUPPORT PLANTING CALENDER IN SOREANG (BANDUNG)	173
<i>Gunawansyah, Thee H. Liong, Adiwijaya</i>	
CHURN PREDICTION ON FIXED BROADBAND INTERNET USING COMBINED FEED- FORWARD NEURAL NETWORK AND SMOTEBOOST ALGORITHM.....	179
<i>Awalludin, Adiwijaya, Moch A. Bijaksana, Arief F. Huda, L. Kemas Muslim</i>	
STOCK PRICE FORECASTING USING ARTIFICIAL NEURAL NETWORK (CASE STUDY: PT. TELKOM INDONESIA)	185
<i>Adetya Prasetyo, Danang Junaedi, Mahmud D. Sulistiyo</i>	
THE ROLE OF PRIVACY, SECURITY AND TRUST IN USER ACCEPTANCE OF SMARTPHONE USER IN INDONESIA	191
<i>Ari Kusyanti, Nungki D. Prastanti</i>	
MALAY SPEECH CORPUS OF TELECOMMUNICATION CALL CENTER PREPARATION FOR ASR.....	197
<i>M. Draman, D. C. Tee, Z. Lambak, M. R. Yahya, M. I. M. Yusoff, S. H. Ibrahim, S. Saidon, N. A. Haris, T. P. Tan</i>	
FRAUD DETECTION ON INTERNATIONAL DIRECT DIAL CALL USING HYBRID NBTREE ALGORITHM AND KULLBACK LEIBLER DIVERGENCE	203
<i>Aries Yulianto, Adiwijaya, Moch A. Bijaksana, Kemas M. Lhaksmana</i>	
SOCIAL NETWORK DATA ANALYTICS FOR MARKET SEGMENTATION IN INDONESIAN TELECOMMUNICATION INDUSTRY	209
<i>Indrawati, Andry Alamsyah</i>	
INTEGRATION OF ENHANCED BACKGROUND FILTERING AND WAVELET FUSION FOR HIGH VISIBILITY AND DETECTION RATE OF DEEP SEA UNDERWATER IMAGE OF UNDERWATER VEHICLE.....	214
<i>Ahmad S. A. Ghani, Ahmad F. A. Nasir, Wan F. W. Tarmizi</i>	
CHEATING VIDEO DESCRIPTION BASED ON SEQUENCES OF GESTURES.....	220
<i>Ahmad Arinaldi, Mohamad I. Fanany</i>	
GAIT RECOGNITION USING TEMPORAL GRADIENT PATTERNS	226
<i>Jashila N. Mogan, Chin P. Lee, Alan W. C. Tan</i>	

AUTOMATED VEHICLE CLASS AND COLOR PROFILING SYSTEM BASED ON FUZZY LOGIC.....	230
<i>Aaron C. P. Uy, Elmer P. Dadios, Rhen A. R. Bedruz, Argel Bandala, Ana R. F. Quiros, Edwin Sybingco, Oswald Sapang, John A. C. Jose</i>	
MAN WOMAN DETECTION IN SURVEILLANCE IMAGES.....	236
<i>Dina Chahyati, Mohamad I. Fanany, Aniati M. Arymurthy</i>	
DATA ANALYSIS TO UNCOVER INTRUDER ATTACKS USING DATA MINING TECHNIQUES	240
<i>Saima Nazir , Mustansar A. Ghazanfar , Naif R. Aljohaniy, Muhammad A. Azam , Jalal S. Alowibdi</i>	
INDEXING VORONOI CELLS USING QUADTREE IN SPATIAL DATABASE.....	246
<i>Eriza T. A. Nugroho, Kiki M. Adhinugraha, Ibnu Asror</i>	
A NEW APPROACH TO REDUCING EXECUTION TIME IN REAL-TIME COMPUTATION.....	254
<i>Fazmah A. Yulianto, Kuspriyanto</i>	
CONSUMER PERCEPTUAL MAPPING TOWARDS E-BANKING CHANNEL(A STUDY OF BANK BRI CUSTOMER IN INDONESIA).....	260
<i>Refi R. W. Giri, Bagus R. Santoso, Ati Mustikasari, Made K. Bratawisnu</i>	
VIDEO MINOR STROKE EXTRACTION USING LEARNING VECTOR QUANTIZATION.....	264
<i>Aviv Y. Rahman, Surya Sumpeno, Mauridhi H. Purnomo</i>	
THE SIGNIFICANT EFFECT OF FEATURE SELECTION METHODS IN SPAM RISK ASSESSMENT USING DENDRITIC CELL ALGORITHM	271
<i>Kamahazira Zainal, Mohd Z. Jali</i>	
A COMPARATIVE STUDY OF MFCC-KNN AND LPC-KNN FOR HIJAIYYAH LETTERS PRONOUNCIATION CLASSIFICATION SYSTEM	279
<i>Adiwijaya, Masyithah N. Aulia, M. S. Mubarak, W. U. Novia, Fhira Nhita</i>	
EXTENDING MEGRELISHVILI PROTOCOL FOR MULTI-PARTY KEY AGREEMENT	284
<i>Muhammad Arzaki, Bambang A. Wahyudi</i>	
TOWARDS MALWARE DETECTION IN ROUTERS WITH C500-TOOLKIT	292
<i>Nghi-phu Tran, Quoc-dung Ngo, Van-hoang Le, Ngoc-binh Nguyen</i>	
SECO: SDN SECURE CONTROLLER ALGORITHM FOR DETECTING AND DEFENDING DENIAL OF SERVICE ATTACKS	297
<i>Song Wang, Karina G. Chavez, Sithamparanathan Kandeepan</i>	
INFUSION MONITORING USING WIFI (802.11) THROUGH MQTT PROTOCOL.....	303
<i>Naili Shofa, Andrian Rakhmatsyah, Siti A. Karimah</i>	
ASSOCIATION PERCEPTION CUSTOMER FEEDBACK WITH TEXT NETWORK ANALYSIS IN SOCIAL MEDIA (CASE STUDY ON INTERNET BANKING BRI, BCA, MANDIRI IN INDONESIA)	310
<i>Made K. Bratawisnu, Refi R. W. Giri, Rudi Rinaldi</i>	
DIGITAL FORENSICS RANDOM ACCESS MEMORY USING LIVE TECHNIQUE BASED ON NETWORK ATTACKED	316
<i>Periyadi Periyadi, Giva Mutiara, Roni Wijaya</i>	
INDOOR ROUTING IN THREE DIMENSIONAL SPACES.....	322
<i>Tiara A. Dioni, Kiki M. Adhinugraha, Sultan Alamri</i>	
SMART CANE LOCATION GUIDE FOR BLIND USING GPS	327
<i>Gita I. Hapsari, Giva A. Mutiara, Dicky T. Kusumah</i>	
MULTIPLE OBJECTIVE OPTIMIZATION OF LED LIGHTING SYSTEM DESIGN USING GENETIC ALGORITHM	333
<i>Robert M. C. Santiago, John A. Jose, Argel A. Bandala, Elmer P. Dadios</i>	
HANDWRITING RECOGNITION ON FORM DOCUMENT USING CONVOLUTIONAL NEURAL NETWORK AND SUPPORT VECTOR MACHINES (CNN-SVM)	338
<i>Darmatasia, Mohamad I. Fanany</i>	
ELECTRONIC TRAVEL AID SYSTEM FOR VISUALLY IMPAIRED PEOPLE.....	344
<i>P. S. Ranaweera, S. H. R. Madhuranga, H. F. A. S. Fonseka, D. M. L. D. Karunathilaka</i>	
PERFORMANCE ANALYSIS OF WAVELET-BASED DENOISING TECHNIQUES FOR ECG SIGNAL.....	350
<i>Satria Mandala, Muhammad Arzaki, Yunendah N. Fuadah, Faida E. Pambudi</i>	
AN IMPLEMENTATION OF CONVOLUTIONAL NEURAL NETWORK ON PCO CLASSIFICATION BASED ON ULTRASOUND IMAGE	356
<i>B. Cahyono, Adiwijaya, M. S. Mubarak, U.n. Wisetty</i>	
SIMULATION OF MACROSCOPIC TRAFFIC MODEL WITH APPROXIMATION VELOCITY FUNCTION: A STUDY CASE IN JALAN BUAH BATU, INDONESIA.....	360
<i>P. H. Gunawan, A. Siahaan</i>	

PLANNING OF LTE NETWORK AT CAWANG - CIKARANG UTAMA TOLL ROAD USING ADAPTIVE SOFT FREQUENCY REUSE.....	364
<i>Rizka Nurhasanah, Uke K. Usman</i>	
CLASSIFYING DRIVERS USING ELECTRONIC LOGGING DEVICES	370
<i>Low J. Ming , Ian K. T. Tan, Poo K. Hoong</i>	
DIGITAL CLOCK SYNCHRONIZATION USING IP WITH WIRELESS FIDELITY	375
<i>Dhimas W. Pratama, Endro Ariyanto, Maman Abdurrohman</i>	
AUTOMOBILE RADAR CO-CHANNEL INTERFERENCE MODELING, SIMULATION AND OUTAGE ANALYSIS	380
<i>Nishantha D. J. Hettiarachchi, Sithamparanathan Kandeepan, Robin J. Evans</i>	
ONLINE COLLABORATION ADOPTION: A CASE STUDY IN INDONESIA' ABC TELCO COMPANY IN INDONESIA	386
<i>Indrawati, Duto Pratomo</i>	
ADOPTION FACTORS OF ONLINE-WEB RAILWAY TICKET RESERVATION SERVICE (A CASE FROM INDONESIA).....	392
<i>Indrawati, Sofiar Yuslian</i>	
INDONESIA INFRASTRUCTURE AND CONSUMER STOCK PORTFOLIO PREDICTION USING ARTIFICIAL NEURAL NETWORK BACKPROPAGATION	398
<i>S. P. Mahasagara, Andry Alamsyah, Brady Rikumahu</i>	
THE CRITICAL SUCCESS FACTORS MODEL FOR E-GOVERNMENT IMPLEMENTATION IN INDONESIA	402
<i>Soni F. S. Gumilang, Asti Amalia</i>	
A FRAMEWORK FOR DESIGNING A PERSONALISED WEB-BASED SEARCH ASSISTANT TOOL FOR ELEARNING	407
<i>Mohammad M. Rahman, Nor A. Abdullah, Fnu Aurangozeb</i>	
EXPLORING AFTERLIFE INTERPRETED THROUGH DANCE AND MULTIMEDIA.....	413
<i>Ang K. Yew, Yuen M. Chan, Tan K. Cheng</i>	
INTERACTIVE AND COLLABORATIVE PLATFORM IMPLEMENTATION ON LEARNING MANAGEMENT SYSTEM.....	418
<i>Amanda P. Septiani, Dawam D. J. Suwawi, Anisa Herdiani</i>	
USER INTERFACE DESIGN MODEL FOR PARENTAL CONTROL APPLICATION ON MOBILE SMARTPHONE USING USER CENTERED DESIGN METHOD	424
<i>Syafrizal Wardhana, Mira K. Sabariah, Veronikha Effendy, Dana S. Kusumo</i>	
ANALYSIS INTERACTION DESIGN PATTERNS IN DRAWING APPLICATION FOR EARLY CHILDHOOD USING DEDUCTIVE METHOD APPROACH	430
<i>Dwitika D. Pangestuti, Mira K. Sabariah, Dana S. Kusumo</i>	
SELF-REGULATED LEARNING (SRL): THE IMPACT OF INCOMPLETE SRL DEVELOPMENT ON THE MANAGEMENT OF CONFLICTING GOALS	436
<i>Angelika Maag, P. W. C. Prasad, Lau S. Hoe, A. Elchouemi</i>	
THE IMPLEMENTATION OF ADAPTIVE REQUIREMENTS ENGINEERING PROCESS BASED ON CASE-BASED REASONING	443
<i>Praditya A. W. Kristantya, Dana S. Kusumo, Nungki Selviandro, Fachriannoor</i>	
SOFTWARE APPLICATION FOR MAINTENANCE SYSTEM: A COMBINATION OF MAINTENANCE METHODS IN PRINTING INDUSTRY	448
<i>Judi Alhilman, Fransiskus T. D. Atmaji, Nurdinintya Athari</i>	
DIGITAL CONNECTIVITY AND SHARING AT SCHOOL: OPPORTUNITIES AND SECURITY CHALLENGES OF USING SOCIAL NETWORKING SITES.....	454
<i>Sadaf Hina, Dhanapal D. Dominic</i>	
EVALUATION OF IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING INFORMATION SYSTEM WITH DELONE AND MCLEAN MODEL APPROACH	460
<i>Herry Irawan, Irwan Syah</i>	
SYNTHESIZING A SOFT SYSTEM METHODOLOGY USE ININFORMATION SYSTEMS RESEARCH FIELD: A SYSTEMATIC REVIEW	467
<i>Fitroh, Ditdit N. Utama</i>	
NEXT GENERATION CYBER SECURITY SOLUTION FOR AN EHEALTH ORGANIZATION.....	471
<i>Hossam Ahmed, Abeer Alsadoon, P. W. C. Prasad, N. Costadopoulos, Lau S. Hoe, Amr Elchouemi</i>	
Author Index	