## Contents

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutrosophic Logic Applied to Decision Making</td>
<td>1</td>
</tr>
<tr>
<td>Henrik Madsen, Grigore Albeanu, Bernard Burtschy and Florin Popentiu-Vladicescu</td>
<td></td>
</tr>
<tr>
<td>Transforming e-Government to Smart Government: A South Australian Perspective</td>
<td>9</td>
</tr>
<tr>
<td>Akhilesh Harsh and Nikhil Ichalkaranje</td>
<td></td>
</tr>
<tr>
<td>An Online Content Syndication Tool with Built-in Search and Social Sharing</td>
<td>17</td>
</tr>
<tr>
<td>Zijie Tang and Kun Ma</td>
<td></td>
</tr>
<tr>
<td>Customizing EPCglobal to Fit Local ONS Requirements</td>
<td>21</td>
</tr>
<tr>
<td>Shiju Sathyadevan, C.A. Akhila and M.K. Jinesh</td>
<td></td>
</tr>
<tr>
<td>Distributed CloudIMS: Future-Generation Network with Internet of Thing Based on Distributed Cloud Computing</td>
<td>31</td>
</tr>
<tr>
<td>Hamid Allouch and Mostafa Belkasmi</td>
<td></td>
</tr>
<tr>
<td>Genetic Algorithm-Based Query Expansion for Improved Information Retrieval</td>
<td>47</td>
</tr>
<tr>
<td>Pragati Bhatnagar and Narendra Pareek</td>
<td></td>
</tr>
<tr>
<td>Genetic Algorithm-Based Adaptive PID Controller</td>
<td>57</td>
</tr>
<tr>
<td>Shradhanand Verma and Rajani K. Mudi</td>
<td></td>
</tr>
<tr>
<td>Text Mining for Phishing E-mail Detection</td>
<td>65</td>
</tr>
<tr>
<td>Masoumeh Zareapoor and K.R. Seeja</td>
<td></td>
</tr>
</tbody>
</table>
A Multi-objective Cat Swarm Optimization Algorithm for Workflow Scheduling in Cloud Computing Environment 73
Saurabh Bilgaiyan, Santwana Sagnika and Madhabananda Das

A Case Study of User Behavior in Information Retrieval 85
Venkata Udaya Sameer and Rakesh Chandra Balabantaray

Fuzzy Mapping of Robotic Arm Based on LabVIEW 95
Prasad Kulkarni and S.L. Patil

An Improvement on NSGA-II for Finding Fast the Better Optimal Solution in Multi-objective Optimization Problem 105
Praloy Shankar De and B.S.P. Mishra

Test Case Creation from UML Sequence Diagram: A Soft Computing Approach 117
Ajay Kumar Jena, Santosh Kumar Swain and Durga Prasad Mohapatra

Solving Nonlinear Constrained Optimization Problems Using Invasive Weed Optimization 127
Y. Ramu Naidu and A.K. Ojha

ESEC: An Ideal Secret Sharing Scheme 135
Greeshma Sarath, S. Deepu, Sudharsan Sundararajan and Krishnashree Achuthan

Extended Service Registry to Support I/O Parameter-Based Service Search 145
H.N. Lakshmi and Hrushikesha Mohanty

Realizing New Hybrid Rough Fuzzy Association Rule Mining Algorithm Over Apriori Algorithm 157
Aritra Roy and Rajdeep Chatterjee

Modal Analysis of Hand-Arm Vibration (Humerus Bone) for Biodynamic Response Using Varying Boundary Conditions Based on FEA 169
Ashwani Kumar, Deepak Prasad Mamgain, Himanshu Jaiswal and Pravin P. Patil

Preserving Privacy in Healthcare Web Services Paradigm Through Hippocratic Databases 177
Rekha Bhatia and Manpreet Singh
Generation of Array Passwords Using Petri Net for Effective Network and Information Security .................................. 189
S. Vaithyasubramanian, A. Christy and D. Lalitha

Application of Genetic Algorithm for Component Optimization to Deploy Geoprocessing Web ............................... 201
Sujit Kumar Behera, Lalit Kumar Behera, Payodhar Padhi and Maya Nayak

DNA-Based Cryptographic Approach Toward Information Security ......................................................... 209
Abhishek Majumdar, Tanusree Podder, Atanu Majumder, Nirmalya Kar and Meenakshi Sharma

Design a Fuzzy Logic Controller with a Non-fuzzy Tuning Scheme for Swing up and Stabilization of Inverted Pendulum .......... 221
A.K. Pal and J. Chakrabarty

Use of Machine Learning Algorithms with SIEM for Attack Prediction ............................................. 231
E.T. Anumol

Performance Comparison of Single-Layer Perceptron and FLANN-Based Structure for Isolated Digit Recognition ............. 237
Aryapriyanka Samal, Jagyanseni Panda and Niva Das

Computational Techniques for Predicting Cyber Threats ......................................................... 247
Ekta Gandotra, Divya Bansal and Sanjeev Sofat

Multi-objective Discrete Artificial Bee Colony Based Phasor Measurement Unit Placement for Complete and Incomplete Observability Analysis ......................................................... 255
K. Mahapatra, M.R. Nayak and P.K. Rout

Modified Ant Colony Optimization Algorithm (MAnt-Miner) for Classification Rule Mining ................................. 267
Sarbeswara Hota, Pranati Satapathy and Alok Kumar Jagadev

An Intelligent Method to Test Feasibility Predicate for Robotic Assembly Sequence Generation .......................... 277
M.V.A. Raju Bahubalendruni and B.B. Biswal
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Probabilistic Method Toward SLAM for Mobile Robotic Systems</td>
<td>285</td>
</tr>
<tr>
<td>R.S. Anoop, T. Gireeshkumar and G. Saisuriyaa</td>
<td></td>
</tr>
<tr>
<td>A Brief Survey on Concept Drift</td>
<td>293</td>
</tr>
<tr>
<td>V. Akila and G. Zayaraz</td>
<td></td>
</tr>
<tr>
<td>Live Virtual Machine Migration Techniques—A Technical Survey</td>
<td>303</td>
</tr>
<tr>
<td>T.Y.J. Naga Malleswari, G. Vadivu and D. Malathi</td>
<td></td>
</tr>
<tr>
<td>A Design Phase Understandability Metric Based on Coupling and Cohesion for Object-Oriented Systems</td>
<td>321</td>
</tr>
<tr>
<td>Nikita Singh and Aprna Tripathi</td>
<td></td>
</tr>
<tr>
<td>Web Service Response Time Prediction Using HMM and Bayesian Network</td>
<td>327</td>
</tr>
<tr>
<td>Vani Vathsala Atluri and Hrushikesha Mohanty</td>
<td></td>
</tr>
<tr>
<td>A Multi-agent-Based Framework for Cloud Service Description and Discovery Using Ontology</td>
<td>337</td>
</tr>
<tr>
<td>Manoranjan Parhi, Binod Kumar Pattanayak and Manas Ranjan Patra</td>
<td></td>
</tr>
<tr>
<td>Enhancing Security in Cloud Computing Using Bi-directional DNA Encryption Algorithm</td>
<td>349</td>
</tr>
<tr>
<td>Ashish Prajapati and Amit Rathod</td>
<td></td>
</tr>
<tr>
<td>Service Composition Using Efficient Multi-agents in Cloud Computing Environment</td>
<td>357</td>
</tr>
<tr>
<td>Abhijit Bastia, Manoranjan Parhi, B.K. Pattanayak and M.R. Patra</td>
<td></td>
</tr>
<tr>
<td>Comparative Study of DE and PSO over Document Summarization</td>
<td>371</td>
</tr>
<tr>
<td>Rasmita Rautray and Rakesh Chandra Balabantaray</td>
<td></td>
</tr>
<tr>
<td>Medical Image Thresholding Using Particle Swarm Optimization</td>
<td>379</td>
</tr>
<tr>
<td>Debasish Mishra, Isita Bose, Utpal Chandra De and Madhabananda Das</td>
<td></td>
</tr>
<tr>
<td>Criterions for Databases in Cloud Computing Environment</td>
<td>385</td>
</tr>
<tr>
<td>Sarada Prasanna Pati and Prasant Kumar Pattnaik</td>
<td></td>
</tr>
<tr>
<td>Measuring Web Site Usability Quality Complexity Metrics for Navigability</td>
<td>393</td>
</tr>
<tr>
<td>Sandeep Kumar Panda, Santosh Kumar Swain and Rajib Mall</td>
<td></td>
</tr>
</tbody>
</table>
Personalized Web Page Recommendation Using a Graph-Based Approach to Implicitly Find Influential Users ........................................ 403
Ashish Nanda, Rohit Omanwar and Bharat Deshpande

Ensuring Data Security and Performance Evaluation in Cloud Computing ........................................ 415
Pourya Shamsolmoali and M. Afshar Alam

Context-Aware Computing Using Rich Contexts for Pervasive Environment ........................................ 425
P. Rajasekaran, N. Prabakaran and V. Magudeeswaran

Financial Trading System Using Combination of Textual and Numeric Data ........................................ 433
Jibendu Kumar Mantri and Braja B. Nayak

A Novel Trust-Based Privacy Preserving Access Control Framework in Web Services Paradigm .......................... 441
Rekha Bhatia and Manpreet Singh

A Novel Low-Power Domino Logic Technique Providing Static Output in Evaluation Phase for High Frequency Changing Inputs ........................................ 455
Sumit Sharma and Kamal Kant Kashyap

The Impact of Gate Underlap on Analog and RF Performance of Hetero-Junction FET ........................................ 465
Rohit Jana and Angsuman Sarkar

Low-Power, High-Speed, Indirect Frequency-Compensated OPAMP with Class AB Output Stage in 180-nm CMOS Process Technology ........................................ 471
Subhrajyoti Das, Sushanta K. Mandal, Adyasha Rath and Sweta Padma Dash

An Analytical Surface Potential Model of Surrounding Gate Tunnel FET ........................................ 479
Soumen Paul and Angsuman Sarkar

Design and Characterization of Ka-Band Reflection-Type IMPATT Amplifier ........................................ 487
L.P. Mishra and M. Mitra
Energy Transfer to Piezoelectric Component Through Magnetic Resonant Coupling ............................... 493
P.P. Nayak, D.P. Kar, S.N. Das and S. Bhuyan

Interface Study of Individual and Stacked High-k/P-Si MOSCAPs by CV Technique ............................... 499
Milan Maitri Mishra, Gayatri Pradhan, Farida Ashraf Ali and Gouranga Bose

Mesh-Type Split-Ring Resonator as Parasitic Radiator for SAR Reduction in Mobile Handset ........................ 509
Sarada Prasan Rout and Amlan Datta

On-Chip Improved Single Clock Swing Enhanced Charge Pump Circuit ................................................. 519
Nikhil Deo, Rahul Roushan and Rohit Kumar Sah

Material-Based Vibration Characteristic Analysis of Heavy Vehicle Transmission Gearbox Casing Using Finite Element Analysis ................................................................. 527
Ashwani Kumar, Arpit Dwivedi, Himanshu Jaiswal and Pravin P. Patil

Ultra high-Speed InAlAs/InGaAs High Electron Mobility Transistor ..................................................... 535
Meryleen Mohapatra, Nutan Shukla and A.K. Panda

Design and Simulation of CNTFET by Varying the Position of Vacancy Defect in Channel .......................... 545
Shreekant and Sudhanshu Choudhary

Performance Evaluation of InGaP/GaAs Solar Cell with Double Layer ARC ............................................ 553
Praveen Priyaranjan Nayak, Jyoti Prakash Dutta and Guru Prasad Mishra

Time-Delay Approximation: Its Influence on the Structure and Performance of the IMC-PI/PID Controller ............................................................. 561
P.V. Gopi Krishna Rao, M.V. Subramanyam and K. Satyaprasad

A Study on Nonlinear Classifier-Based Moving Object Tracking .......................................................... 571
Ajoy Mondal, Badri Narayan Subudhi, Moumita Roy, Susmita Ghosh and Ashish Ghosh
Comparative Study of PCM, LPC, and CELP Speech Coders Used for VoIP Applications ................................. 579
Mahesh Chandra and Manas Ray

Sound- and Touch-Based Smart Cane: Better Walking Experience for Visually Challenged .............................. 589
Rajesh Kannan Megalingam, Aparna Nambissan, Anu Thambi, Anjali Gopinath and K. Megha

Efficient VLSI Implementation of CORDIC-Based Direct Digital Synthesizer .................................................. 597
N. Prasad, Manas Ranjan Tripathy, Ansuman DiptiSankar Das, Nihar Ranjan Behera and Ayaskanta Swain

A Novel Method for MP3 Steganalysis ........................................... 605
Rinu Kuriakose and P. Premalatha

Using Orthographic Transcripts for Stuttering Dysfluency Recognition and Severity Estimation .......................... 613
P. Mahesha and D.S. Vinod

Combining Cepstral and Prosodic Features for Classification of Disfluencies in Stuttered Speech ......................... 623
P. Mahesha and D.S. Vinod

Development of Magnetic Control System for Electric Wheel Chair Using Tongue ............................................. 635
G. Hari Krishnan, R.J. Hemalatha, G. Umashankar, Nilofer Ahmed and Soumya Ranjan Nayak

An Autonomous Obstacle Avoiding and Target Recognition Robotic System Using Kinect ................................. 643
Anoop Velayudhan and T. Gireeshkumar

Navigation Based on Adaptive Shuffled Frog-Leaping Algorithm for Underwater Mobile Robot ........................... 651
Kundu Shubhasri and Dayal R. Parhi

Power Efficiency with Localization for Tracking and Scrutinizing the Aquatic Sensory Nodes ............................... 661
Pushpendra R. Verma, D.P. Singh and R.H. Goudar
Off-line Handwritten Script Identification from Eastern Indian Document Images Using Logistic Model Tree .......................... 675
Sk Md Obaidullah, Nibaran Das and Kaushik Roy

Segmentation and Comparison of Water Resources in Satellite Images Using Fuzzy-Based Approach ....................... 685
P. Ganesan, V. Rajini, B.S. Sathish and Khamar Basha Shaik

Comparison between ANN-Based Heart Stroke Classifiers Using Varied Folds Data Set Cross-Validation .................. 693
H.S. Niranjana Murthy and M. Meenakshi

A Novel Approach for DDoS Mitigation with Router ............. 701
S. Deepthi, K.S.S. Hemanth, Rajesh Duvvuru and M. Kalyani

Enhancing Battery Lifetime of Wireless Heterogeneous and Ad hoc NW ................................................................. 709
Debashree Nayak, Saumendra Kumar Mohanty and Amiya B. Sahoo

Analyzing the Interaction Between TCP Variants and Routing Protocols in Static Multi-hop Ad hoc Network ................. 717
Sukant Kishoro Bisoy and Prasant Kumar Pattnaik

Capacity Estimation for Cellular LTE Using AMR Codec with Semi-persistent Scheduling ........................................ 725
Ajay Pratap and Hemanta Kumar Pati

Development of a Nonintrusive Driver Drowsiness Monitoring System ................................................................. 737
M. Harisanker and R. Shanmugha Sundaram

Wearable Medical Devices in Preventive Health Care: Cuffless Blood Pressure Measurement ................................. 745
Rajesh Kannan Megalingam, Ushma Unnikrishnan, Athira Subash, Goutham Pocklassery, Athul Asokan Thulasi, Galla Mourya and Vivek Jayakrishnan

Analysis of Voice for Parkinson’s Disease Persons Using Dynamic Time Warping Technique .......................... 753
Vikas and R.K. Sharma

A Dynamic Model for FECG Synthesis and Preprocessing: A Signal Processing Approach ................................. 761
S. Ravindrakumar and K. Bommanna Raja
Providing Mother and Child Care Telemedicine Through Interactive Voice Response .............................. 771
R. Subhashini, R. Sethuraman and V. Milani

Wheeled Patient Monitoring System ................................. 779
Rajesh Kannan Megalingam, Pranav Sreedharan Veliyara,
Raghavendra Murali Prabhu, Rithun Raj Krishna and Rocky Katoch

Analysis of Medical X-ray Bone Images Using Image Segmentation .............................. 787
Shweta Jena, Barnali Sahu and Alok Kumar Jagadev

Image Change Detection Using Particle Swarm Optimization ...... 795
Santwana Sagnika, Saurabh Bilgaiyan
and Bhabani Shankar Prasad Mishra

Efficient Microarray Data Classification with Three-Stage Dimensionality Reduction .......................... 805
Rasmita Dash, B.B. Misra, Satchidananda Dehuri and Sung-Bae Cho

Trends in Citation Analysis ........................................ 813
G. Parthasarathy and D.C. Tomar

Author Index .......................................................... 823
Intelligent Computing, Communication and Devices
Proceedings of ICCD 2014, Volume 1
Jain, L.C.; Patnaik, S.; Ichalkaranje, N. (Eds.)
2015, XXII, 825 p. 399 illus., Softcover
ISBN: 978-81-322-2011-4