

Contents

Knowledge Representation and Reasoning

Inference and Learning in Probabilistic Argumentation	3
<i>Nguyen Duy Hung</i>	
Spatial Problem Solving in Spatial Structures	18
<i>Christian Freksa, Ana-Maria Oltețeanu, Thomas Barkowsky, Jasper van de Ven, and Holger Schultheis</i>	
Transfer Learning-Based Case Base Preparation for a Case-Based Reasoning-Based Decision Making Support Model in the Educational Domain	30
<i>Pham Thanh Tri, Vo Thi Ngoc Chau, and Nguyen Hua Phung</i>	
Multi-level Search of a Knowledgebase for Semantic Parsing	44
<i>Anupiya Nugaliyadde, Kok Wai Wong, Ferdous Sohel, and Hong Xie</i>	
Design of a Cloud Brokerage Architecture Using Fuzzy Rough Set Technique.	54
<i>Parwat Singh Anjana, Rajeev Wankar, and C. Raghavendra Rao</i>	
Generating Tutorial Interventions for Teaching Situation Awareness in Dental Surgery – Preliminary Report	69
<i>Narumol Vannaprathip, Peter Haddawy, Holger Schultheis, and Siriwan Suebnukarn</i>	

Data Mining and Machine Learning

Validation of Machine Learning Classifiers Using Metamorphic Testing and Feature Selection Techniques	77
<i>Sadam Al-Azani and Jameleddine Hassine</i>	
Packer Identification Using Hidden Markov Model	92
<i>Nguyen Minh Hai and Quan Thanh Tho</i>	
AIC-Driven Spatial Hierarchical Clustering: Case Study for Malaria Prediction in Northern Thailand	106
<i>Peter Haddawy, Myat Su Yin, Tanawan Wisanrakkit, Rootrada Limsupavanich, Promporn Promrat, and Saranath Lawpoolsri</i>	
Multivariate Time Series Clustering Analysis for Human Balance Data	112
<i>Owais Ahmed Malik and Daphne Teck Ching Lai</i>	

Analysis of District-Level Monsoon Rainfall Patterns in India: A Pilot Study	126
<i>Sougata Deb, Clea Milagros Libre Acebedo, Jun Yu, Gomathypriya Dhanapal, and Niranchana Periasamy</i>	

Deep Learning and Its Applications

Facial Expression Recognition Using a Hybrid CNN–SIFT Aggregator	139
<i>Tee Connie, Mundher Al-Shabi, Wooi Ping Cheah, and Michael Goh</i>	
Visual-Only Word Boundary Detection	150
<i>Muhammad Rizki Aulia Rahman Maulana, Retno Larasati, and Mohamad Ivan Fanany</i>	
Combination of Domain Knowledge and Deep Learning for Sentiment Analysis.	162
<i>Khuong Vo, Dang Pham, Mao Nguyen, Trung Mai, and Tho Quan</i>	
Hierarchical Attention Network with XGBoost for Recognizing Insufficiently Supported Argument	174
<i>Derwin Suhartono, Aryo Pradipta Gema, Suhendro Winton, Theodorus David, Mohamad Ivan Fanany, and Aniati Murni Arymurthy</i>	
Speed Invariant Bearing Fault Characterization Using Convolutional Neural Networks.	189
<i>Dileep Kumar Appana, Wasim Ahmad, and Jong-Myon Kim</i>	
Neural Network Control Method for Mobile Robot Trajectory Tracking.	199
<i>Pan Yang, Sheng Han, and Youfang Lin</i>	
What Does a Policy Network Learn After Mastering a Pong Game?	213
<i>Somnuk Phon-Amnuaisuk</i>	

Document Analysis

Minimally-Supervised Sentiment Lexicon Induction Model: A Case Study of Malay Sentiment Analysis	225
<i>Mohammad Darwich, Shahrul Azman Mohd Noah, and Nazlia Omar</i>	
Analysis of the Reforming Languages by Image-Based Variations of LBP and NBP Operators	238
<i>Darko Brodić, Alessia Amelio, Radmila Janković, and Zoran N. Milivojević</i>	

Usability Analysis of the Image and Interactive CAPTCHA via Prediction of the Response Time	252
<i>Darko Brodić, Alessia Amelio, Nadeem Ahmad, and Syed Khuram Shahzad</i>	
Generating Children's Stories from Character and Event Models.	266
<i>Bianca Trish Adolfo, Jerson Lao, Joanna Pauline Rivera, John Zem Talens, and Ethel Chua Joy Ong</i>	
Text Dimensionality Reduction for Document Clustering Using Hybrid Memetic Feature Selection	281
<i>Ibraheem Al-Jadir, Kok Wai Wong, Chun Che Fung, and Hong Xie</i>	
Intelligent Information Systems	
Location-Based Services for Surrounding Area with Myanmar Language on Mobile Devices	293
<i>Myat Thiri Khine and Myint Myint Sein</i>	
Processing and Monitoring Algorithm for Solar-Powered Smart Home in DC-Environment System Based on RF-Radio Node.	304
<i>A.H. Sabry, W.Z.W. Hasan, MZA Ab. Kadir, M.A.M. Radzi, and S. Shafie</i>	
GuARD: A Real-Time System for Detecting Aggressive Human Behavior in Cage Environment.	315
<i>Phooi Yee Lau, Hock Woon Hon, Zulaikha Kadim, and Kim Meng Liang</i>	
DREAD-R: Severity Assessment of ONOS SDN Controller	323
<i>Muhammad Shakil, Alaelddin Fuad Yousif Mohammed, Hyeontaek Oh, and Jun Kyun Choi</i>	
Formal Specifications and Analysis of an Agent-Based Model for Cognitive Aspects of Fear of Crime	331
<i>Azizi Ab Aziz, Ahmad Hanis Mohd Shabli, and Hayder M.A. Ghanimi</i>	
An Anytime Algorithm for Scheduling Tasks for Multiagent Systems	346
<i>Chattrakul Sombattheera</i>	
Hybrid Model with Margin-Based Real-Time Face Detection and Tracking	360
<i>Bacha Rehman, Ong Wee Hong, and Abby Tan Chee Hong</i>	
Smart LED Street Light Systems: A Bruneian Case Study	370
<i>Dk Nur Siti Khadhijah Pg Ali Kumar, Thien Wan Au, and Wida Susanty Suhaili</i>	

Optimal Route Assessment for Emergency Vehicles Travelling on Complex Road Network	380
<i>K-zin Phyو and Myint Myint Sein</i>	
Pasang Emas: An AI Implementation of Brunei’s Ancient Traditional Game	391
<i>Pg. Hj. Asmali Pg. Badarudin</i>	
Swarm Intelligence	
Swap-Based Discrete Firefly Algorithm for Traveling Salesman Problem	409
<i>How Siang Chuah, Li-Pei Wong, and Fadratul Hafinaz Hassan</i>	
An Efficient New Memetic Method for the Traveling Salesman Problem with Time Windows	426
<i>Boldizsár Tűű-Szabó, Péter Földesi, and László T. Kóczy</i>	
A Novel Approach of Set-Based Particle Swarm Optimization with Memory State	437
<i>Michiharu Maeda and Takahiro Hino</i>	
A Spy Search Mechanism (SSM) for Memetic Algorithm (MA) in Dynamic Environments	450
<i>Stephen M. Akandwanaho and Serestina Viriri</i>	
Hybrid Simulated Annealing for the Bi-objective Quadratic Assignment Problem	462
<i>Mohamed Saifullah Hussin and Thomas Stützle</i>	
Solving the Manufacturing Cell Design Problem Using the Artificial Bee Colony Algorithm.	473
<i>Ricardo Soto, Broderick Crawford, Leandro Vásquez, Roberto Zulantay, Ana Jaime, Maykol Ramírez, and Boris Almonacid</i>	
Evolving 3D Models Using Interactive Genetic Algorithms and L-Systems	485
<i>Mariatul Kiptiah binti Ariffin, Shiqah Hadi, and Somnuk Phon-Amnuaisuk</i>	
Author Index	495

Multi-disciplinary Trends in Artificial Intelligence
11th International Workshop, MIWAI 2017, Gadong,
Brunei, November 20-22, 2017, Proceedings
Phon-Amnuaisuk, S.; Ang, S.-P.; Lee, S.-Y. (Eds.)
2017, XVI, 496 p. 184 illus., Softcover
ISBN: 978-3-319-69455-9