

AMELIA RITAHANI BT. ISMAIL



- KULLIYAH OF INFORMATION AND COMMUNICATION TECHNOLOGY
- IIUM Gombak Campus
- Email address: amelia@iium.edu.my

ACADEMIC QUALIFICATION

- Doctor of Philosophy in Computer Science
- Master of Science (Computer Science)
- Bachelor of Management Information System

TEACHING RESPONSIBILITIES

ARTIFICIAL NEURAL NETWORK	2012/2013 2013/2014 2014/2015
DATA SCIENCE	2017/2018
ELEMENTS OF PROGRAMMING	2012/2013 2013/2014 2014/2015 2015/2016
FINAL YEAR PROJECT	2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
FINAL YEAR PROJECT I	2017/2018 2019/2020
FINAL YEAR PROJECT II	2019/2020
INDUSTRIAL ATTACHMENT	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
INTELLIGENT SYSTEMS	2017/2018
INTRODUCTION TO COMPUTER ORGANIZATION	2011/2012
MACHINE LEARNING	2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019 2019/2020
PRINCIPLES OF ARTIFICIAL INTELLIGENCE	2013/2014 2014/2015 2015/2016 2016/2017

RESEARCH PROJECTS

In Progress

- 2019 - Present** A Framework for the Detection of Intelligent Source Code Plagiarism in Big Data using Word2vec Model
- 2019 - Present** Syntactic Ambiguity Detection Framework in Software Requirements Specification

- 2019 - Present** A Fuzzy Multi-Criteria Decision Analysis Model for Decision Support in Diabetes Mellitus
- 2018 - Present** Enhancing COCOMO Model using Particle Swarm Optimization for Estimating Software Development Project
- 2018 - Present** Enhancing COCOMO Model using Particle Swarm Optimization for Estimating Software Development Project
- 2018 - Present** A Novel Particle Swarm Optimization with Levy Flight Algorithm for Imputation of Missing Creatinine Value.
- 2017 - Present** Gait Identification Modelling for a hybrid amphi-underwater robot with exponential momentum ant colony algorithm
- Unknown - Present** A Framework for the Detection of Intelligent Source Code Plagiarism in Big Data using Word2vec Model

Completed

- 2017 - -1** Development of Teaching Modules on the Subject of Computer Science Form 5 for MDeC and MOE
- 2016 - 2019** Validation Study of a Portable Biosensor Technology in Quantifying E. Coli in Filtered River Water
- 2016 - 2019** A Novel Swarm-Based Optimisation Algorithm Inspired by Artificial Neural Glial Network for Autonomous Robots
- 2015 - -1** DIGITAL COMPETENCY STANDARDS (DCS) ANALYTICS & REPORT
- 2015 - 2016** Digital Competency Standards (DCS) Rubrics Refinement and Post Pilot Analysis
- 2013 - 2016** Development of Immune Inspired Algorithm for Self-Healing Swarm Robotic Systems
- 2013 - 2016** A Swarm Cognition Inspired Model for the Unsupervised Learning of Morphology
- 2013 - 2016** An Incremental Construction of Component-based Systems using Multi-Agent Learning Approach
- 2012 - 2015** Immune Inspired Solution for Fault Tolerance in Swarm Robotic Systems
- 2011 - 2014** RU 2011: My Family System: Extending Experts For Consultation On Family Relationships Based On CRM Analytic Model

PUBLICATIONS

Article

- 2020** [Consensus by High Degree of DeGroot Model for Multi-Agent Systems.](#) International Journal of Advanced Trends in Computer Science and Engineering (IJATCSE)

- 2019** [Adam optimization algorithm for wide and deep neural network.](#) Knowledge Engineering and Data Science (KEDS) , 2 (1) pp.41-46
- 2019** [Evolutionary deep belief networks with bootstrap sampling for imbalanced class datasets.](#) International Journal of Advances in Intelligent Informatics , 5 (2) pp.123-136
- 2019** [An assessment of open data sets completeness.](#) International Journal of Advanced Computer Science and Applications , 10 (6) pp.557-562
- 2019** [Predicting uniaxial compressive strength using Support Vector Machine algorithm.](#) Warta Geologi , 45 (1) pp.13-16
- 2019** [Detection of cracked digitized paintings and manuscripts based on threshold techniques.](#) Journal of Computational and Theoretical Nanoscience , 16 (3) pp.1108-1113
- 2019** [A review of data analysis for early-childhood period: taxonomy, motivations, challenges, recommendation, and methodological aspects.](#) IEEE Access , 7 pp.51069-51103
- 2018** [An analysis of ambiguity detection techniques for Software Requirements Specification \(SRS\).](#) International Journal of Engineering & Technology , 7 (2.29 (Special Issue 29)) pp.501-505
- 2018** [Real-time human action recognition using stacked sparse autoencoders.](#) Indian Journal of Science and Technology , 11 (4) pp.1-6
- 2018** [Comparative performance of deep learning and machine learning algorithms on imbalanced handwritten data.](#) International Journal of Advanced Computer Science and Applications , 9 (2) pp.258-264
- 2018** [Comparison of swarm intelligence algorithms for high dimensional optimization problems.](#) Indonesian Journal of Electrical Engineering and Computer Science , 11 (1) pp.300-307
- 2018** [Comparative performance of machine learning algorithms for cryptocurrency forecasting.](#) Indonesian Journal of Electrical Engineering and Computer Science , 11 (3) pp.1121 -1128
- 2018** [Performance analysis of machine learning algorithms for missing value imputation.](#) International Journal of Advanced Computer Science and Applications , 9 (6) pp.442-447
- 2018** [Monthly rainfall prediction model of Peninsular Malaysia using clonal selection algorithm.](#) International Journal of Engineering & Technology , 7 (4.35 Special issue 35) pp.182-185
- 2017** [An expanded square pattern technique in swarm of quadcopters for exploration algorithm.](#) Journal of Theoretical and Applied Information Technology , 95 (20) pp.5484-5493
- 2017** [Simulating the immune inspired energy charging mechanism for swarm robotic systems.](#) Journal of Theoretical and Applied Information Technology , 95 (20) pp.5473-5483

- 2017** [Convolutional neural networks and deep belief networks for analysing imbalanced class issue in handwritten dataset.](#) International Journal on Advanced Science, Engineering and Information Technology , 7 (6) pp.2302-2307
- 2017** [A review of wastewater treatment plant modelling: Revolution on modelling technology.](#) American Journal of Environmental and Resource Economics , 2 (1) pp.22-26
- 2016** [An immune-inspired swarm aggregation algorithm for self-healing swarm robotic systems.](#) Biosystems , 146 pp.60-76
- 2016** [Arabic text classification: Review study.](#) Journal of Engineering and Applied Science , 11 (3) pp.528-536
- 2015** [The swarm-based exploration algorithm with expanded circle pattern for searching activities.](#) Jurnal Teknologi , 77 (20) pp.61-65
- 2015** [Mobile robot path optimization algorithm using vector calculus and mapping of 2 dimensional space.](#) Jurnal Teknologi , 77 (20) pp.33-38
- 2015** [Immune network algorithm in monthly streamflow prediction at Johor river.](#) ARPN Journal of Engineering and Applied Sciences , 10 (3) pp.1352-1356
- 2015** [Utilization of artificial immune system in prediction of paddy production .](#) ARPN Journal of Engineering and Applied Sciences , 10 (3) pp.1462-1467
- 2015** [Exploring energy charging problem in swarm robotic systems using foraging simulation.](#) Jurnal Teknologi , 76 (1) pp.239-244
- 2015** [A comparative study of clonal selection algorithm for effluent removal forecasting in septic sludge treatment plant.](#) Water Science and Technology , 71 (4) pp.524-528
- 2014** [Prediction analysis of effluent removal in a septic sludge treatment plant: a biomimetics engineering approach.](#) Environmental Science: Processes & Impacts , 16 (9) pp.2208-2214
- 2014** [A clonal selection algorithm model for daily rainfall data prediction.](#) Water Science and Technology , 70 (10) pp.1641-1647
- 2013** [Customer relationship management approach for MyFamily system: a framework.](#) Middle-East Journal of Scientific Research , 15 (9) pp.1249-1254
- 2013** [Development of effluent removal prediction model efficiency in septic sludge treatment plant through clonal selection algorithm.](#) Journal of Environmental Management , 129 pp.260-265

Conference or Workshop Item

- 2019** [Improved particle swarm optimization by fast annealing algorithm.](#) In: **2019 International Conference of Artificial Intelligence and Information Technology (ICAIIIT)**
- 2019** [Medical image analysis using deep learning: a review.](#) In: **2019 IEEE International Conference on Innovative Research and Development (ICIRD)**

- 2019 [Indonesian affective word resources construction in valence and arousal dimension for sentiment analysis.](#) In: **The 6th International Conference on Cyber and IT Service Management (CITSM 2018)**
- 2018 [Analyzing and visualizing data dengue hotspot location.](#) In: **Data Science Research Symposium 2018**
- 2018 [Analyzing and visualizing Thoracic Surgery Data Set.](#) In: **Data Science Research Symposium**
- 2018 [Emotion recognition and brain mapping for sentiment analysis: a review.](#) In: **2nd International Conference on Informatics and Computing, ICIC 2017**
- 2018 [Early prediction of acute kidney injury using machine learning algorithms.](#) In: **Asia Pacific Advanced Network Meeting (APAN 46)**
- 2016 [Exploring imbalanced class issue in handwritten dataset using convolutional neural networks and deep belief networks.](#) In: **The 3rd International Multi-Conference on Artificial Intelligence Technology (M-CAIT 2016)**
- 2015 [Clustering natural language morphemes from EEG signals using the Artificial Bee Colony algorithm.](#) In: **Fourth International Neural Network Society Symposia Series (INNS-CIIS 2014)**
- 2015 [Simple recurrent network in real time astrocyte.](#) In: **2015 International Symposium on Innovations in Intelligent Systems and Applications (INISTA)**
- 2015 [Real time astrocyte in spiking neural network.](#) In: **2015 SAI Intelligent Systems Conference (IntelliSys 2015)**
- 2015 [The initial investigation of the design and energy sharing algorithm using two-ways communication mechanism for Swarm Robotic System.](#) In: **Fourth INNS Symposia Series on Computational Intelligence in Information Systems (INNS-CIIS 2014)**
- 2015 [An artificial immune system for self-healing in swarm robotic systems.](#) In: **10th International Conference on Information Processing in Cells and Tissues, IPCAT 2015**
- 2014 [Utilization of artificial immune system in prediction of paddy production.](#) In: **Advancement in Information Technology International Conference**
- 2014 [Modelling immune systems responses for the development of energy sharing strategies for swarm robotic systems.](#) In: **International Conference on Computational Science and Technology (ICCST'14)**
- 2014 [Agent based modeling and simulation of granuloma formation for the development of energy charging mechanism in Swarm Robots.](#) In: **3rd International Conference on Computer Engineering & Mathematical Sciences (ICCEMS 2014)**
- 2014 [Implementation of Cognitive Mapping Algorithm for Robot Navigation System.](#) In: **2014 4th World Congress on Information and Communication Technologies, WICT 2014**

- 2014 [Understanding the immune responses in granuloma formation through agent-based simulation.](#) In: **International Research, Invention and Innovation Exhibition 2014 (IRIIE2014)**
- 2014 [Immune network algorithm in monthly streamflow prediction at Johor river.](#) In: **Advancement in Information Technology International Conference**
- 2014 [Designing and implementation of robot mapping algorithm for mobile robot.](#) In: **International Research Invention & Innovation Exhibition for 2014 (IRIIE 2014)**
- 2012 [Daily rainfall prediction using clonal selection algorithm.](#) In: **International Conference on Water Resources (ICWR 2012)**
- 2012 [Analysis of sequence batch reactor for COD and TSS removal identification from septic sludge treatment plant using bio inspired algorithm: a case study in Sarawak.](#) In: **National Graduate Conference 2012 (NATGRAD 2012)**
- 2012 [Bio-engineered solution in enhancement of septic sludge with artificial immune system.](#) In: **International Conference on Water Resources (ICWR 2012)**
- 2011 [Modelling containment mechanisms in the immune system for applications in engineering.](#) In: **Proceedings of the 9th International Conference on Artificial Immune Systems**
- 2010 [Towards self-healing swarm robotics systems inspired by granuloma forming.](#) In: **International Conference on Engineering of Complex Computer Systems**
- 2009 [Aggregation of swarms for fault tolerance inswarm robotics using immuno-engineering approach.](#) In: **Proceedings of the 9th Annual Workshop on Computational Intelligence**

**Book
Book Section**

- 2015 [Clustering natural language morphemes from EEG signals using the Artificial Bee Colony algorithm.](#) In: **Computational intelligence in information systems: proceedings of the Fourth INNS Symposia Series on Computational Intelligence in Information Systems (INNS-CIIS 2014)** Switzerland . ISBN 978-3-319-13152-8 , pp.51-60
- 2010 [An artificial immune systems for robot organisms.](#) In: **Symbiotic multi-robot organisms : realibility, adaptability and evaluation** Springer . ISBN 978-3642-11691-9 , pp.279-302