



RAYNER ALFRED

ASSOCIATE PROFESSOR OF COMPUTER SCIENCE

Certified IBM DB2 Academic Associate, Certified Tester Foundation Level (CTFL)

AREAS OF SPECILIZATION: Advanced Machine Intelligence, Data Science and Analytics, Data Mining, Information Retrieval, Artificial Intelligence, Machine Learning, Knowledge Discovery, Data and Text Mining.

ADDRESS: Knowledge Technology Research Group, Faculty of Computing and Informatics, Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah.

CONTACT: Mobile: 6013-881-9966, eMail: ralfred@ums.edu.my

Web of Science (ISI): <https://publons.com/researcher/3425292/rayner-alfred/@Arayner121>

SCOPUS: <https://www.scopus.com/authid/detail.uri?authorId=24722539300>

ORCID: <http://orcid.org/0000-0002-3080-3264>,

Google Scholar: <https://scholar.google.com/citations?user=roea-toAAAAJ&hl=en>

Rayner Alfred is an Associate Professor of Computer Science at the Faculty of Computing and Informatics, Universiti Malaysia Sabah in Malaysia. Rayner completed his PhD in 2008 looking at intelligent techniques using machine learning to model and optimize the dynamic and distributed processes of knowledge discovery for structured and unstructured data. He holds a PhD degree in Computer Science from York University (United Kingdom), a Master degree in Computer Science from Western Michigan University, Kalamazoo (USA) and a Computer Science degree from Polytechnic University of Brooklyn, New York (USA) where he was the recipient of the *Myron M. Rosenthal Academic Achievement Award* for the outstanding academic achievement in Computer Science in 1994. He has been a visiting scholar at Korea Institute of Advanced Study, Seoul, KOREA in 2020, Japan Advanced Institute of Science and Technology, JAPAN in 2018 and he is a member of board of directors, MIMOS (Malaysian Institute of Microelectronic Systems) from 2019 to 2021.

He leads and defines projects around knowledge discovery, information retrieval and machine learning that focuses on building smarter mechanism that enables knowledge discovery in structured and unstructured data. His work addresses the challenges related to big data problem: How can we create and apply smarter collaborative knowledge discovery and machine learning technologies that bridge the structured and unstructured data mining and cope with the big data problem. He has been a chair for computational science and machine learning conferences such as Computational Science and Technology (ICCST), Computational Science and Engineering (ICCSE) and Advanced Information System and Knowledge Management (AISKM).

He has authored and co-authored more than 150 journals/book chapters and conference papers, editorials, and served on the program and organizing committees of numerous national and international conferences and workshops. In terms of postgraduate student supervision, he has successfully supervised 6 doctorate and 7 master students. Now, he has 9 active PhD students undergoing research in Biometric security, Big Data Analytics, Data Modelling and Visualization, Machine Learning for Odour Classification, Multi-Agent Technology and Digital Transformation.

Rayner is currently a member of IEEE, a Certified Software Tester (CTFL) from the International Software Testing Qualifications Board (*ISTQB*), and also a certified IBM DB2 Academic Associate (IBM DB2 AA). He leads the Advanced Machine Intelligence (AMI) research group in UMS and he has lead several projects related to knowledge discovery and machine learning on Big Data. He is also the recipient of multiple GOLD and SILVER awards at national and international research exhibitions in Data Mining and Machine Learning based solutions (Face Recognition and Knowledge Discovery), that include International Trade Fair Ideas in Nuremberg, Germany (iNEA2018, iENA2019) International Invention Innovation Competition in Toronto, Canada (iCAN 2018), Seoul International Invention Exhibition in Seoul, Korea (SIIF 2010), International Conference and Exposition on Inventions by Institutions of Higher Learning (PECIPTA2019, PECIPTA2010) and International Invention, Innovation & Technology Exhibition, Malaysia (ITEX2019, ITEX2018 and ITEX2010).

He has secured RM6,931.433.00 worth of project grants. Some of his project researches include biometric authentication using face recognition, building security based on plate number recognition using deep learning, sentiment analysis for Malay and English in measuring public opinion, news-news correlation trending, machine learning algorithm-based solution for predicting diseases in health care, smart monitoring using an ensemble-based face recognition system and smart information management and retrieval to name a few. Some of the completed projects include Semantic Multi-Agent For Knowledge Sharing, developing an Evolutionary-Based Ensemble Classifier Framework for Learning Big Relational Data, developing a genetic-based hierarchical agglomerative clustering technique for parallel clustering of bilingual corpora based on reduced terms, enhancing document Clustering By Integrating Semantic Background Knowledge and Syntactic Features Into the BOW Representation and the fundamental Study on an Evolutionary Based Features Construction Methods for Data Summarization Approach to Predict Survival Factors of Coral Reefs in Malaysia, to name a few and also infrared face recognition based on ensemble approach.

He has also delivered several keynote speeches to the public and private sectors on Embracing the Wave of IR4.0 for Smart Farming, Transforming e-Government to Smart Government, Industrial Revolution 4.0, Digital Transformation, e-Commerce and Research and Innovation, and finally the vital area skills and factors for effective digital transformation towards smart Sabah government.

EDUCATIONAL BACKGROUNDS

2008	Ph.D.	Computer Science (Knowledge Discovery and Machine Learning), University of York, United Kingdom
1997	MSc.	Computer Science, Western Michigan University, Kalamazoo, Michigan, United States of America
1994	BS.c	Computer Science, Polytechnic University of Brooklyn, Brooklyn, New York, United States of America

EMPLOYMENT HISTORY

2018 – Current	Head of Research Unit, Knowledge Technology, Faculty of Computing and Informatics, Universiti Malaysia Sabah, Sabah, Malaysia
2014 – Current	Associate Professor, Software Engineering Program, Faculty of Computing and Informatics, Universiti Malaysia Sabah, Sabah, Malaysia
2016 – 2018	Deputy Dean of Research and Innovation, Program, Faculty of Computing and Informatics, Universiti Malaysia Sabah, Sabah, Malaysia
2014 – 2015	Head of Programme, Software Engineering Program, Faculty of Computing and Informatics, Universiti Malaysia Sabah, Sabah, Malaysia
2008 – 2014	Head of Programme, Software Engineering Program, School of Engineering and Information Technology, Universiti Malaysia Sabah, Sabah, Malaysia
2009 – 2014	Senior Lecturer, Software Engineering Program, School of Engineering and Information Technology, Universiti Malaysia Sabah, Sabah, Malaysia
2001 – 2003	Deputy Dean Academic and Student Affairs, School of Engineering and Information Technology, Universiti Malaysia Sabah, Sabah, Malaysia
1999-2001	Lecturer, Software Engineering Program, School of Engineering and Information Technology, Universiti Malaysia Sabah, Sabah, Malaysia

2020

1. **Alfred R.**, Yu H.F. (2020) Automated Scheduling of Hostel Room Allocation Using Genetic Algorithm. In: Sharma N., Chakrabarti A., Balas V. (eds) Data Management, Analytics and Innovation. Advances in Intelligent Systems and Computing, vol 1042. Springer, Singapore
2. **Alfred R.**, Lun C.Y. (2020) Unsupervised Learning of Image Data Using Generative Adversarial Network. In: Yang X.S., Sherratt S., Dey N., Joshi A. (eds) Fourth International Congress on Information and Communication Technology. Advances in Intelligent Systems and Computing, vol 1041. Springer, Singapore
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5. Sia F., **Alfred R.** (2020) Optimizing Parameters Values of Tree-Based Contrast Subspace Miner using Genetic Algorithm. In: Alfred R., Lim Y., Havaluddin H., On C. (eds) Computational Science and Technology. Lecture Notes in Electrical Engineering, vol 603. Springer, Singapore
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2. Sia, Florence; **Alfred, Rayner**. Tree-based mining contrast subspace. International Journal of Advances in Intelligent Informatics, [S.l.], v. 5, n. 2, p. 169-178, july 2019. ISSN 2548-3161. Available at: <http://ijain.org/index.php/IJAIN/article/view/359%7Cto_array%3A0>. Date accessed: 07 aug. 2019. doi:<https://doi.org/10.26555/ijain.v5i2.359>.
3. Emmilya Umma Aziza Gaffar, Achmad Fanany Onnilita Gaffar, **Rayner Alfred**, Irwan Gani, Havaluddin, Penerapan Jaringan Heuristik untuk Prediksi Persentase Distribusi Produk Domestik Bruto (PDB) Atas Dasar Harga Berlaku Menurut Lapangan Usaha, Prosiding Seminar Ilmu Komputer dan Teknologi Informasi Vol. 3, No. 1, Maret 2018, e-ISSN 2540-7902 dan p-ISSN 2541-366X, p. 222-230
4. Rayner Pailus and **Rayner Alfred**, Performance Evaluation of MadBoost on Face Detection, Applied Mechanics and Materials, Vol. 892, pp. 200-209, 2019, Trans Tech Publications Ltd, ISSN: 1662-7482, <https://doi.org/10.4028/www.scientific.net/AMM.892.200>

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9. Obit J.H., Junn K.Y., **Alfred R.**, Bolongkikit J., Sheng O.Y. (2019) An Investigation towards Hostel Space Allocation Problem with Stochastic Algorithms. In: Alfred R., Lim Y., Ibrahim A., Anthony P. (eds) *Computational Science and Technology. Lecture Notes in Electrical Engineering*, vol 481. Springer, Singapore, DOI: https://doi.org/10.1007/978-981-13-2622-6_23, Print ISBN: 978-981-13-2621-9, Online ISBN: 978-981-13-2622-6.
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4. Lim Yuto, Ooi Sian En, Makino Yoshiki, Teo Tze Kin, **Rayner Alfred**, and Tan Yasuo, Implementation of Energy Efficient Thermal Comfort Control for Cyber-Physical Home Systems, *Adv. Sci. Lett.* 23, pp. 11530–11534, ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online) (2017)
5. Geoffrey Harvey Tanakinjal, Stephen Laison Sondoh Jr., **Rayner Alfred**, and Ryan Macdonell Andrias, Analysis of Behavioral Intention of Mobile Application Usage Using Partial Least Squares, *Adv. Sci. Lett.* 23, pp. 11440–11443, ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online) (2017)
6. Kuan Yik Junn, Joe Henry Obit, and **Rayner Alfred**, Comparison of Simulated Annealing and Great Deluge Algorithms for University Course Timetabling Problems (UCTP), *Adv. Sci. Lett.* 23, pp. 11413–11417, ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online) (2017)
7. SengKheau Chung, **Rayner Alfred**, HuiKeng Lau, Chin Kim On, Ag Asri Ag Ibrahim, Mohd Shamrie Sainin, and Paulraj Murugesu Pandiyan, Consensus Phase of eDARA, *Adv. Sci. Lett.* 23, pp. 11202–11205, ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online) (2017)
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12. Teh Shan Shan, Joe Henry Obit, **Rayner Alfred**, and Asni Tahir, Enhancing the Performance of University's Website for Mobile Devices Based on Responsive Web Design Approach, *Adv. Sci. Lett.* 23, pp. 10969–10973, ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online) (2017)
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2016

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9. **Rayner Alfred**, Kim On Chin, Patricia Anthony, Phang Wai San, Tan Li Im, Leow Ching Leong, Gan Kim Soon, Ontology-Based Query Expansion for Supporting Information Retrieval in Agriculture, The 8th

10. **Rayner Alfred**, Gan Kim Soon, Chin Kim On and Patricia Anthony, A Robust Framework for Web Information Extraction and Retrieval, *International Journal of Machine Learning and Computing*, 4(2):146-150, ISSN 2010-3700, DOI: 10.7763/IJMLC.2014.V4.403, 2014.
11. **Rayner Alfred**, Leow Chin Leong, Chin Kim On and Patricia Anthony, Malay Named Entity Recognition Based on Rule-Based Approach, *International Journal of Machine Learning and Computing*, 4(3):300-306, ISSN 2010-3700, DOI: 10.7763/IJMLC.2014.V4.428, 2014.
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13. Tan Li Im, Phang Wai San, Chin Kim On, **Rayner Alfred** and Patricia Anthony, Impact of Financial News Headline and Content to Market Sentiment, *International Journal of Machine Learning and Computing*, ISSN 2010-3700, DOI: 10.7763/IJMLC.2014.V4.418, 2014.

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2. **Rayner Alfred**, Leow Ching Leong, Chin Kim On, Patricia Anthony, Tan Soo Fun, Mohd Norhisham Bin Razali, and Mohd Hanafi Ahmad Hijazi, A Rule-Based Named-Entity Recognition for Malay Articles, M. Yao et al. (Eds.): ADMA 2013, Part I, LNAI 8346, pp. 288–299, Springer-Verlag Berlin Heidelberg, 2013.
3. Surayaini Binti Basri, **Rayner Alfred**, Chin Kim On and Mohd Norhisham Razali, An Automatic Spell Checker Framework for Malay Language Blogs, S. Zhou and Z. Wu (Eds.): ADMA 2012 Workshops, CCIS 387, pp. 1–10, 2013. DOI: 10.1007/978-3-642-41629-3_5, Springer-Verlag Berlin Heidelberg 2013
4. Shi Jun Long, Tan Tse Guan, Jason Teo, Chin Kim On, **Rayner Alfred**, and Patricia Anthony, Evolving Controllers For Simulated Car Racing Using Differential Evolution, *Asia-Pacific Journal of Information Technology and Multimedia*, vol. 2(1), pp. 57-68, Jun 2013. e-ISSN: 2289-2192.
5. Tan Tse Guan, Jason Teo, Chin Kim On, and **Rayner Alfred**, A Co-evolutionary Multi-objective Evolutionary Algorithm for Game Artificial Intelligence, *Asia-Pacific Journal of Information Technology and Multimedia*, vol. 2(2), pp. 53-61, Dec 2013. e-ISSN: 2289-2192.
6. Tan Tse Guan, Yong Yung Nan, Chin Kim On, Jason Teo, and **Rayner Alfred**, Automated Evaluation for AI Controllers in Tower Defense Game Using Genetic Algorithm, *The 2nd International Multi-Conference on Artificial Intelligence Technology 2013 (MCAIT 2013)*, Springer-Verlag Berlin Heidelberg, CCIS 378, pp. 135–146, Kuala Lumpur, Malaysia, 2013.
7. Florence Sia, **Rayner Alfred**, Chin Kim On, Learning Relational Data Based on Multiple Instances of Summarized Data Using DARA, *The 2nd International Multi-Conference on Artificial Intelligence Technology 2013 (MCAIT 2013)*, Springer-Verlag Berlin Heidelberg, CCIS 378, pp. 293–301, Kuala Lumpur, Malaysia, 2013.
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1. **Rayner Alfred**, Chan Chen Jie, Ng Zhen Wei, Asni Tahir and Joe Henry Obit, *Optimizing Clusters Alignment for Bilingual Malay-English Corpora*, *Journal Computer Science*, 8(12): 1970-1978, ISSN: 1549-3636, Science Publications, 2012 (**SCOPUS, Impact Factor: 1.35**)
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5. Ng Zhen Wei, Chan Chen Jie, **Rayner Alfred**, Joe Henry Obit, *A Genetic-Based HAC Technique for Parallel Clustering of Bilingual Malay-English Corpora*, *International Journal of Advances in Computer Science and its Application (IJCSIA)*, 2(3):161-168, Universal Association of Computer and Electronics Engineers, ISSN:- 2250-3765, 8 December 2012. (<http://ijcsia.uacee.org/vol2iss3/31.html>)

2011

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4. Alfred Raymond, Hue, Koh Pei, Khee, Lee Shan and **Rayner Alfred**, *The importance of maintaining a proper database on forest restoration program for orangutans in Borneo*. American Journal of Environmental Sciences, 6 (2). pp. 137-151. ISSN 1553-345X, Science Publications, 2010 (**SCOPUS, Impact Factor: 1.22**)
5. Raymond Alfred, Koh P. Hue, Lee S. Khee and **Rayner Alfred**, *Summarizing Spatial Distribution Density, Movement Patterns and Food Resources to Study the Impacts of Logging and Forest Conversion on Orang-utan Population*. OnLine Journal of Biological Science, 10(2): 73-83, ISSN: 1608-4217, Science Publications, 2010 (**SCOPUS, Impact Factor: 1.09**)

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1. **Rayner Alfred**, *A Parallel Hierarchical Agglomerative Clustering Technique for Bilingual Corpora Based on Reduced Terms with Automatic Weight Optimization*, Advanced Data Mining and Applications, *Lecture Notes in Computer Science*, Volume 5678, pp 19-30, Springer-Verlag Berlin Heidelberg, 2009
2. **Rayner Alfred**, *Discovering Knowledge from Multi-relational Data Based on Information Retrieval Theory*, Advanced Data Mining and Applications, *Lecture Notes in Computer Science*, Volume 5678, pp 409-416, Springer-Verlag Berlin Heidelberg, 2009
3. **Rayner Alfred**, *Optimizing feature construction process for dynamic aggregation of relational attributes*, Journal of Computer Science, 5 (11). pp. 864-877. ISSN 1549-3636, Science Publications, 2009 (**SCOPUS, Impact Factor: 1.35**)
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2. **Rayner Alfred**, *A Genetic-Based Feature Construction Method for Data Summarisation*, Advanced Data Mining and Applications, *Lecture Notes in Computer Science*, Volume 5139, pp 39-50, Springer-Verlag Berlin Heidelberg, 2008
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2. **Rayner Alfred**, *The Study of Dynamic Aggregation of Relational Attributes on Relational Data Mining*, Advanced Data Mining and Applications, *Lecture Notes in Computer Science*, Volume 4632, pp 214-226, Springer-Verlag Berlin Heidelberg, 2007
3. **R. Alfred**, E. Paskaleva, D. Kazakov and M. Bartlett, *Hierarchical Agglomerative Clustering for Cross-Language Information Retrieval*, International Journal of Translation, 19(1):139-162, ISSN: 0940-9819, 2007

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PROCEEDINGS

2019

1. Gaffar, E.U.A., Gani, I., Haviluddin, Gaffar, A.F.O., **Alfred, R.**, A Heuristic Network for Predicting the Percentage of Gross Domestic Product Distribution (2019) Proceeding - 2018 International Symposium on Advanced Intelligent Informatics: Revolutionize Intelligent Informatics Spectrum for Humanity, SAIN 2018, art. no. 8673349, pp. 117-122. DOI: 10.1109/SAIN.2018.8673349, ISBN: 978-153865280-0. IEEE Indonesia Section, Institute of Electrical and Electronics Engineers Inc.

2018

1. E. U. A. Gaffar, I. Gani, Haviluddin, A. F. O. Gaffar and **R. Alfred**, "A Heuristic Network for Predicting the Percentage of Gross Domestic Product Distribution," 2018 International Symposium on Advanced Intelligent Informatics (SAIN), Yogyakarta, Indonesia, 2018, pp. 117-122. doi: 10.1109/SAIN.2018.8673349
2. R. Pailus and R. Alfred, "Performance Evaluation of MadBoost on Face Detection", Applied Mechanics and Materials, Vol. 892, pp. 200-209, 2019

2017

1. Mohd Hanafi Ahmad Hijazi, Lyndia Libin, **Rayner Alfred**, Frans Coenen, Bias aware lexicon-based Sentiment Analysis of Malay dialect on social media data: A study on the Sabah Language, Proceeding - 2016 2nd International Conference on Science in Information Technology, ICSITech 2016: Information Science for Green Society and Environment, pp. 356-361, IEEE, DOI: 10.1109/ICSITech.2016.7852662, Electronic ISBN: 978-1-5090-1721-8, USB ISBN: 978-1-5090-1720-1, Print on Demand(PoD) ISBN: 978-1-5090-1722-5

2016

1. Mohd Shamrie Sainin, **Rayner Alfred** and Faudziah Ahmad (2016), Improving the Identification and Classification of malaysia Medicinal Leaf Images using Ensemble Method, International Conference on ICT for Transformation (IC-ICT4T2016), At Kota Kinabalu, Sabah.
2. Mohd Shamrie Sainin, **Rayner Alfred** and Faudziah Ahmad (2016), Comparison of half and full-leaf shape feature extraction for leaf classification, International Soft Science Conference (ISSC 2016), At Langkawi, Kedah, Malaysia.

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1. Haviluddin and **Rayner Alfred**, Modeling Time Series Using Nonlinear Autoregressive with eXogenous input (NARX), 2015 International Conference on Science in Information Technology (ICSITech), ISBN: 978-1-4799-8384-1, IEEE, pp. 164 – 168, DOI: 10.1109/ICSITech.2015.7407797
2. Haviluddin and **Rayner Alfred**, A Genetic-Based Back-propagation Neural Network for Forecasting a Time-Series Data, 2015 International Conference on Science in Information Technology (ICSITech), ISBN: 978-1-4799-8384-1, IEEE, pp. 158 – 163, DOI: 10.1109/ICSITech.2015.7407796
3. Mohd Shamrie Sainin, Faudziah Ahmad, **Rayner Alfred**, Ensemble Classifier And Resampling for Imbalanced Multiclass Learning, Proceedings of the International Conference on Computing & Informatics, pp. 751-756, ISBN:978-967-0910-02-4, ISSN: 2289-3784, WOS:000359431400105, 2015. (ISI Web of Science)

2014

1. Haviluddin and **Rayner Alfred**, Daily Network Traffic Prediction Based on Backpropagation Neural Network, International Conference on Computational Modeling, Simulation and Analysis, International Postgraduate Network, 12-13 Desember 2014, Jakarta, Malaysia, 2014.
2. Mohd Shamrie Sainin, Taqiyah Khadijah Ghazali, **Rayner Alfred**, Malaysian Medicinal Plant Leaf Shape Identification and Classification, Proceeding of Knowledge Management International Conference (KMICE)2014, VOLS 1 AND 2, pp. 578-583, ISBN:978-983-2078-92-0, WOS:000346752100098, 2014. (ISI Web of Science)
3. Mohd Shamrie Sainin and **Rayner Alfred**, Feature Selection for Malaysian Medicinal Plant Leaf Shape Identification and Classification, 2014 International Conference on Computational Science and Technology (ICCST), ISBN: 978-1-4799-3241-2, 2014. (Scopus)
4. Gan Kim Soon, **Rayner Alfred**, Chin Kim On, Patricia Anthony, A Comparison of Distance Methods Effectiveness in Retrieving Relevant Articles in Agricultural Domain, 2014 International Conference on Computational Science and Technology (ICCST), ISBN: 978-1-4799-3241-2, 2014. (Scopus)

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5. Tan Li Im, Phang Wai San, **Chin Kim On**, Rayner Alfred, and Patricia Anthony, Analysing Market Sentiment in Financial News using Lexical Approach, 2013 IEEE Conference on Open Systems (ICOS'2013), Kuching, Sarawak, 2-4 December 2014, pp. 145-149, DOI: 10.1109/ICOS.2013.6735064.
6. Chang Sim Vui, Gan Kim Soon, Chin Kim On, **Rayner Alfred**, and Patricia Anthony, A Review of Stock Market Prediction with Artificial Neural Network (ANN), IEEE 2013 International Conference on Control System, Computing and Engineering (ICCSCE'2013), pp. 477–482, DOI:10.1109/ICCSCE.2013.6720012 Penang, Malaysia, 29 November - 1 December 2013.
7. Leow Chin Leong, Gan Kim Soon, Tan Tse Guan, Chin Kim On, **Rayner Alfred**, and Patricia Anthony, Self-Synthesized Controllers for Tower Defense Game using Genetic Programming, IEEE 2013 International Conference on Control System, Computing and Engineering (ICCSCE'2013), pp. 487–492, DOI: 10.1109/ICCSCE.2013.6720014, Penang, Malaysia, 29 November - 1 December 2013.
8. Gan Kim Soon, Tan Tse Guan, Chin Kim On, **Rayner Alfred**, and Patricia Anthony, A Comparison on the Performance of Crossover Techniques in Video Game, IEEE 2013 International Conference on Control System, Computing and Engineering (ICCSCE'2013), pp. 493–498, DOI: 10.1109/ICCSCE.2013.6720015, Penang, Malaysia, 29 November - 1 December 2013.
9. Asni Tahir, Salmah Fattah, **Rayner Alfred**, Helene Appolonius (2013) Ontology-Based User Model and IRT for Personalized Learning Environment, ICERI2013 Proceedings, pp. 4406-4411, IATED, 2013.
10. Helena Appolonius, Salmah Fattah, Asni Tahir, Siti Hasnah Tanalol, **Rayner Alfred** (2013) Modelling A Success Learning Style in Adaptive Hypermedia, EDULEARN13 Proceedings, pp. 1244-1252, IATED, 2013.

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11. Mohd Shamrie Sainin, **Rayner Alfred**: A Direct Ensemble Classifier for Imbalanced Multiclass Learning, 2012 IEEE 4th Conference on Data Mining and Optimization (DMO 2012), pp. 59-66, ISBN: 978-1-4673-2717-6, 2012
12. Florence Sia, **Rayner Alfred**, Evolutionary-based feature construction with substitution for data summarization using DARA, 2012 IEEE 4th Conference on Data Mining and Optimization (DMO 2012), pp. 53-58, ISBN: 978-1-4673-2717-6, 2012
13. Florence Sia, **Rayner Alfred**, Leau Yu Beng and Tan Soo Fun, A Variable Length Feature Construction method for data summarization using DARA, 2012 7th International Conference on Computing and Convergence Technology (ICCT), pp.881,887, 3-5 Dec. 2012, Seoul, Korea, ISBN: 978-1-4673-0894-6
14. Khalifa Chekima, Chin Kim On, **Rayner Alfred**, Gan Kim Soon and Patricia Anthony, Document Categorizer Agent Based on ACM Hierarchy, The Proceedings of 2012 IEEE International Conference on Control System, Computing and Engineering (ICCSCE 2012), Penang, Malaysia, 2012
15. Surayaini Basri, **Rayner Alfred** and Chin Kim On, Automatic Spell Checker for Malay Blog, The Proceedings of 2012 IEEE International Conference on Control System, Computing and Engineering (ICCSCE 2012), Penang, Malaysia, 2012
16. Ng Zhen Wei, Chan Chen Jie, **Rayner Alfred**, Joe Henry Obit, A Genetic-Based HAC Technique for Parallel, Clustering of Bilingual Malay-English Corpora, Proc. of the International Conference on Advances in Computing and Networking (ACN 2012), Universal Association of Computer and Electronics Engineers, pp. 1- 9, 2012, ISBN: 978-981-07-2683-6, 2012
17. **Rayner Alfred**, Geoffrey Harvey Tanakinjal, Joe Henry Obit, Too Few Too Far: Research Productivity Assessment in Malaysia Based on H-Index Analysis, Proceedings of INTED2012 Conference, pp. 1925-1934, 5th-7th March 2012, Valencia, Spain, ISBN: 978-84-615-5563-5, 2012
18. Florence Sia and **Rayner Alfred**, Unsupervised Learning of Mutagenesis Molecules Structure Based on An Evolutionary-Based Features Selection in DARA, Proceedings of 4th International Conference on Chemical and Bioprocess Engineering (ICCBPE 2012), pp. 835-845, School of Engineering & Information Technology, Universiti Malaysia Sabah, e-ISBN 978-983-2641-95-7, 2012
19. Asni Tahir, Siti Hasnah Tanalol, Salmah Fattah, Patricia Anthony, **Rayner Alfred**, Helena Appolonius, *A Review of the Research on Ontology-Based User Modelling for Personalized Learning Environment*, Proceeding of the 4th International Conference on Education and New Learning Technologies (EDULEARN 2012), Barcelona, Spain, International Association of Technology, Education and Development (IATED), 2012
20. Ching Leong Leow and **Rayner Alfred**, *Enhancing Bilingual Clustering of Malay-English Corpora Using Dictionary-Based Stemming and Named-Entity Recognition Algorithms*, Proceedings of International Conference on Postgraduate Education (ICPE-5), 19-20 December 2012, Kuala Lumpur.
21. Haviluddin, **Rayner Alfred** and Patricia Anthony, Comparison Between COBIT 4.1 and COBIT 5: A Study Utilization From the Literature, The 2nd ACIKITA International Conference on Science & Technology (AICST), Radio Republic of Indonesia (RRI) Building, Jakarta, August 26 - 28, 2012.

2011

22. Joe Henry Obit, Dario Landa-Silva, Djamila Ouelhadj, Teong Khan Vun, **Rayner Alfred**. Designing a Multi-agent Approach System for Distributed Course Timetabling. Proceedings of the 2011 IEEE Hybrid Intelligent Systems Conference (IEEE-HIS 2011), pp. 103-108, IEEE Press, Melacca Malaysia, December 2011.

23. Mohd Shamrie Sainin and **Rayner Alfred**, A genetic based wrapper feature selection approach using Nearest Neighbour Distance Matrix. Proceedings of the 3rd Conference on Data Mining and Optimization, DMO 2011, pp 237-242, 28-29 June 2011, Putrajaya, Malaysia, 2011.

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24. **Rayner Alfred**, An optimized term weights based clustering for bilingual parallel, Proceedings of an International Conference on Advanced Computer Theory and Engineering (ICACTE), 25-27 September 2009, Cairo, Egypt, 2009

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25. **Rayner Alfred**, *DARA: Data Summarisation with Feature Construction*, Proceedings of 2nd Asia International Conference on Modelling and Simulation (AMS 2008), pp 830-835, ISBN: 978-0-7695-3136-6, 2008

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26. **Rayner Alfred** and Dimitar Kazakov, *A Clustering Approach to Generalized Pattern Identification Based on Multi -instanced Objects with DARA*, Communications of the Eleventh East-European Conference on Advances in Databases and Information Systems, Local Proceedings of ADBIS 2007, pp. 38-49, Technical University of Varna, Bulgaria, September 29 - October 3, 2007
27. **Rayner Alfred** and Dimitar Kazakov, *Aggregating Multiple Instances in Relational Database Using Semi-Supervised Genetic Algorithm-based Clustering Technique*, Communications of the Eleventh East-European Conference on Advances in Databases and Information Systems, Local Proceedings of ADBIS 2007, pp. 136-147, Technical University of Varna, Bulgaria, September 29 - October 3, 2007
28. **Rayner Alfred** and Kazakov Dimitar, *Handling datasets in a multi-relational environment: Cluster dispersion vs cluster purity*, Proceedings of 4th IEEE Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications (IDAACS), 6-8 September 2007, Dortmund, Germany, 2007
29. **R. Alfred**, E. Paskaleva, D. Kazakov, M. Bartlett, et. al. 2007. Hierarchical Agglomerative Clustering of English-Bulgarian Parallel Corpora, Proceedings of International Conference on Recent Advances in Natural Language Programming (RANLP 2007), pp. 24-29, INCOMA Ltd, Borovets, Bulgaria, ISBN: 978-954-91743-7-3, 2007.

2006

30. **Rayner Alfred** and Dimitar Kazakov, *Pattern-Based Transformation Approach to Relational Domain Learning Using Dynamic Aggregation for Relational Attributes*, Proceedings of the 2006 International Conference on Data Mining, DMIN 2006, pp 118-124, Las Vegas, Nevada, USA, June 26-29, 2006. CSREA Press 2006, ISBN 1-60132-004-3, 2006

RESEARCH GRANTS SECURED – RM6,931,433.00

NATIONAL BLUE OCEAN STRATEGY – MALAYSIA (RM274,600.00)

1. (AM00068) Pengukuhan Nilai Rantaian Industri Rumpai Laut Malaysia, 1 December 2015 – 31 December 2017, Co-Researcher.

MOSTI SCIENCE FUND (eScience) – RM757,230.00

1. (SCF0093-ICT-2016) Mobile-Based Automated Car Plate Localization and Recognition Using Neural Networks, November 2016 – October 2018, **RM246,500.00**, Co-Researcher. Dr.Chin Kim On, Assoc. Prof. Dr. Ag. Asri Ag. Ibrahim, Dr. Tan Tse Guan, Assoc. Prof. Dr. Jason Teo Tze Wi and Assoc. Prof. Dr. Rayner Alfred
2. (SCF0058-ICT-2008) Development of an Intelligent Genetic-Based Data Summarization Technique for Spatial Multi-Relational N-ary Database, Nov 2008 – April 2010, Leader, **RM188,200.00 – Completed**
3. Negotiating Agents for Online Auctions, Nov 2008 - April 2010, Co-Researcher, **RM145,200.00 – Completed**
4. (GL00035) Development of Semantic Multi-Agent Framework, Jan 2012 – Dec 2013, Co-Researcher, **RM177,330.00 – Completed**

EXPLORATORY RESEARCH GRANT SCHEME (ERGS) – RM135,520.00

1. (ERGS0045-ICT-1/2013) Exploring the potential of designing automated content builder for mobile apps using evolutionary computing methods, July 2013 – June 2015, Leader, **RM74,800.00**
2. (ERGS0044-ICT-1/2013) Embedding Kansei factors into sound design to improve sonification performance, July 2013 – June 2015, Co-Researcher, **RM60,720.00**

LONG TERM RESEARCH GRANT SCHEME (LRGS) – RM191,664.00

1. (LRGS002) Semantic Multi-Agent For Knowledge Sharing (Indigenous Ensemble Semantic Model for Knowledge-Based Society), Jul 2011 – Mac 2015, Leader, **RM191,664.00 – Completed**

FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS) – RM406,419.00

1. (FRG0382-ICT-2/2014) Developing An Evolutionary-Based Ensemble Classifier Framework for Learning Big Relational Data, Disember 2014 – November 2017, Leader, **RM90,000.00**
2. (Ref: FRGS/2/2014/ICT07/UUM/03/1) An Improved Hybrid Ensemble Classifier for Imbalanced Multiclass Big Data, Disember 2014 – November 2017, Co-Researcher, **RM49,700.00**
3. (Ref: FRGS/2/2014/ICT05/UMS/02/1) Sonification of 3D Body Movements Using Parameter Mapping Technique, Disember 2014 – November 2017, Co-Researcher, **RM76,719.00**
4. (FRG0303-TK-1/2012) Semantic Agent Architecture: Embedding Ontology into Agent's Reasoning Engine, Jan 2012 - Dec 2013, Co-Researcher, **RM102,000.00 – Completed**
5. (FRG0225-TK-1/2010) Development of a genetic-based hierarchical agglomerative clustering technique for parallel clustering of bilingual corpora based on reduced terms, Jul 2010 - Jun 2012, Leader, **RM40,000.00 – Completed**
6. Automatic Generation Of Mobile Content In Entertainment Applications Using Evolutionary Computing, Jul 2010 – Jun 2012, Co-Researcher, **RM48,000.00 – Completed**

DANA PEMBUDAYAAN PENYELIDIKAN (RAGS) – RM237,000.00

1. (RAG0006-TK-2012) Fundamental Study on Learning Relational Biodiversity Data for Endangered Species in Sabah using Clustering Ensembles Techniques, Jan 2013 – Dec 2014, Co-Researcher, **RM59,000.00– Completed**
2. (RAG0007-TK-2012) Fundamental Study on an Evolutionary Based Features Construction Methods for Data Summarization Approach to Predict Survival Factors of Coral Reefs in Malaysia, Jan 2013 – Dec 2014, Leader, **RM59,000.00 – Completed**
3. (RAG0008-TK-2012) Development of an Intelligent Categorization Tool for Malay Research Articles to Facilitate Research Activities in Malaysia, Jan 2013 – Dec 2014, Co-Researcher, **RM59,000.00 – Completed**
4. (RAG0009-TK-2012), Retinal Image Classification Using Image Mining Techniques: A Study if Age-Related Macular Degeneration Screening, Jan 2013 – Dec 2014, Co-Researcher, **RM60,000.00**

GERAN PENYELIDIKAN RESEARCH ACCULTURATION COLLABORATIVE EFFORTS (RACE)

1. (RACE0014-TK-2014) Agent Communication Language with Semantic Web Technology for Interoperable Communication, Jan 2015 – Jan 2017, Co-Researcher, **RM50,000.00**

UMS RESEARCH GRANT SCHEME (SGPUMS) – RM79,000.00

1. (SLB0010-TK-1/2011) Enhancing Document Clustering By Integrating Semantic Background Knowledge and Syntactic Features Into the BOW Representation, Jan 2012 – Dec 2013, **Leader, RM7,000.00 – Completed**
2. (SBK0023-SG/2012) Development of A Diversified Ensemble Data Summarization (DDS) Tool for Learning Medical Data in a Multi-relational Environment, Jul 2012 – Jun 2014, **Co-Researcher, RM15,000.00 – Completed**
3. (SLB0008-TK-1/2011) Enhancing Knowledge Management by Developing an Automated Document Labelling Based on Concepts Aggregation using Hierarchical Agglomerative Clustering Techniques, Jan 2012 – Dec 2013, **Co-Researcher, RM7,000.00 – Completed**
4. (SBK0012-SG-1/2011) Development of a Text Analyzer for Automatic Categorization of Texts Documents Based on Interactive Visualization Approach, Jan 2012 - Jun 2013, **Co-Researcher, RM15,000.00 – Completed**
5. (SLB0039-TK-1/2011) Construction of An Intelligent Personalized Learning Tool, Feb 2012 – Jan 2014, **Co-Researcher, RM8,000.00**
6. (SMS0055) Development of a variable-length feature construction method for summarising data stored in multiple tables using Genetic Algorithm, Nov 2008 – Oct 2009, **Leader, RM7,000.00 – Completed**
7. (SBK0109-SG-2013) Multi-Agent Systems for Distributed Timetabling Problems, Feb 2014 – Jan 2016, **Co-Researcher, RM20,000.00**
8. SDK0087-2019, Design and Development of Synthetic and Natural Fiber as Blades for River Cleaning Machine Application, **Co-Researcher**, Prof. Dr. Coswald Stephen Sipaut @ Mohd Nasri, Prof. Madya Dr. Rayner Alfred, Prof. Madya Dr. Rachel Fran Mansa, Prof. Madya Dr. Abu Zahrim Bin Yaser, Prof. Madya Dr. Jedol Dayou, Dr. Sariah Abang, **RM20,000.00**, 13 June 2019 - 12 June 2020
9. SDN0057-2019, Biometric Patient Authentication System Using Face Recognition Approach for Smart Hospital, **Co-Researcher**, Assoc. Prof. Dr. Rayner Alfred, Dr. May Honey Ohn, Dr. Joe Henry Obit, **RM60,000.00**, 5 June 2019 - 4 May 2021
10. SDN0076-2019, Development of a Smart Healthcare Geospatial-Analytics Tool to Identify and Monitor Healthcare Trends in Borneo, **Leader**, Assoc. Prof. Dr. Rayner Alfred, Dr. May Honey Ohn, Dr. Bonaventure Boniface, Assoc. Prof. Dr. Geoffrey Tanakinjal, **RM50,000.00**, 5 June 2019 - 4 May 2021

11. SDN0078-2019, Development of an integrated Web-GIS Data Modeling System to enhance Information Flow Management to support the Seaweed Farming Industry in Semporna, **Co-Researcher**, Assoc. Prof. Dr. Rayner Alfred, Dr. Bonaventure Boniface, Assoc. Prof. Dr. Geoffrey Tanakinjal, Dr. Jude Stephen Sondoh, **RM50,000.00**, 5 June 2019 - 4 May 2021.

PANEL EXAMINERS

PhD

No	Name	Degree	Title	University	Year	Appointment
1	Tan Li June	<i>MSc</i>	<i>Fuzzy Logic Incorporate with Multi-Agent System for Solving Course Timetabling Problems</i>	Universiti Malaysia Sabah	2019	Internal Examiner
2	Eng Jeng Hong	<i>PhD</i>	<i>Famili Kaedah LElaran Pengenduran Berlebihan Berpecutan Bagi Menyelesaikan Permasalahan Penyuntingan Imej Poisson dan Pelengkapan Imej</i>	Universiti Malaysia Sabah	2019	Internal Examiner
3	Sa'Deh Suleiman Jubbor	<i>PhD</i>	<i>Activity Recognition on Sequential Sensor Data in Smart Homes</i>	Multimedia University (MMU)	2020	External Examiner
4	Allen Choong Chieng Hoon	<i>PhD</i>	<i>DNA Motif Prediction Using Ensemble Approach and Convolutional Neural Network Technique</i>	Universiti Malaysia Sarawak	2018	External Examiner
5	Doreen Sim Ying Ying	<i>PhD</i>	<i>Development of Knowledge-Based System using Computational Intelligence Approaches for Early Clinical Diagnosis of OSA Cases</i>	Universiti Malaysia Sarawak	2017	External Examiner
6	Norasmadi Bin Abdul Rahim	<i>PhD</i>	<i>An Ensemble Based System Approach for Moving Vehicle Noise Classification</i>	Universiti Malaysia Perlis	2015	External Examiner
7	Hamzah Asyrani Bin Sulaiman [PK20109094]	<i>PhD</i>	<i>Dynamic Pivot Point of Contact Determination Technique (DyOP) for N-Body Narrow Phase Collision Detection System in 3D Virtual Environment</i>	Universiti Malaysia Sabah	2015	Internal Examiner
8	Johan Luaran	<i>PhD</i>	<i>Pakej Pembelajaran WEDPI dalam Membantu Penguasaan Praktis Aplikasi Teknologi Maklumat Dalam Kalangan Guru di sekolah rendah Di daerah Pitas</i>	Universiti Malaysia Sabah	2010	Internal Examiner
9	Chin Kim On	<i>PhD</i>	<i>Multi-Objective Evolution of RF-Signal Homing Behaviour in Simulated Autonomous Wheeled Robots Using Differential Evolution</i>	Universiti Malaysia Sabah	2008	Internal Examiner

POSTGRADUATES SUPERVISION

DOCTOR OF PHILOSOPHY (PhD)

NO.	NO. MATRIK	NAMA	TITLE	TAHAP PENYELIA	STATUS
1	PK20088357	SAMRY @ MOHD SHAMRIE SAININ	A DIRECT ENSEMBLE CLASSIFIER FOR LEARNING IMBALANCED MULTICLASS DATA	PENYELIA UTAMA	COMPLETED 2012
2	MK1321005T	LAI PO HUNG	OPTIMIZED FEATURE EXTRACTION AND SELECTION BASED ENSEMBLE FRAMEWORK FOR SENTIMENT ANALYSIS	PENYELIA UTAMA	COMPLETED 2018
3	DI1511001A	KHALIFA CHEKIMA	ENHANCING SENTIMENT ANALYSIS OF MALAY LANGUAGE SUBJECTIVE TEXT	PENYELIA UTAMA	COMPLETED 2018
4	20119032	HAVILUDDIN	TIME-SERIES ANALYSIS USING MACHINE LEARNING	PENYELIA UTAMA	COMPLETED 2017
5	PK20088406	CHUNG SENG KHEAU	ENHANCING FEATURE SELECTION TO IMPROVE DATA SUMMARIZATION APPROACH FOR RELATIONAL DATA	PENYELIA UTAMA	COMPLETED 2016
6	MI1611008T	KUAN YIK JUNN	A CONSTRAINT PROGRAMMING APPROACH TO SOLVING UNIVERSITY COURSE TIMETABLING PROBLEM (UCTP)	PENYELIA BERSAMA	ON GOING
7	DI1411003A	AHMED QUSAY SABRI	HUMAN ODOUR CLASSIFICATION USING MACHINE LEARNING	PENYELIA UTAMA	COMPLETED 2019
8	DK1311008T	FLORENCE SIA FUI SZE	MINING CONTRAST SUBSPACES IN BIG DATA WITH HIGH-DIMENSIONAL SENSITIVE ATTRIBUTES BASED ON DECISION TREE	PENYELIA UTAMA	COMPLETED 2020
9	MI1621029T	RAYNER HENRY PAILUS	INFRARED FACE RECOGNITION BASED ON ENSEMBLE APPROACH	PENYELIA UTAMA	ON GOING
10	DI1721003T	BRIDGET GEOFFREY LOJONON	FACTORS THAT INFLUENCE THE IMPLEMENTATION OF DIGITAL SYSTEMS FOR DATA AND INFORMATION MANAGEMENT IN THE PUBLIC SECTOR	PENYELIA UTAMA	ON GOING
11	DI1821007T	NOSIUS BIN LUARAN	DATA MODELLING AND VISUALIZATION FOR AGGRICULTURE INDUSTRY	PENYELIA UTAMA	ON GOING
12	DA1821050A	ZHU CHEN	MODELLING TOURISM USING SPATIAL ANALYSIS	PENYELIA UTAMA	ON GOING
13	DI1821010A	LI GUOZHANG	MODELLING STUDENTS' SOCIAL MEDIA DATA TO DETECT STUDENTS' ACADEMIC, MENTAL HEALTH AND BEHAVIOURAL ABNORMALITIES	PENYELIA UTAMA	ON GOING
14	DI1821013A	WANG DA WEI	DEVELOPMENT OF SENTIMENT ANALYSIS FOR CHINESE LANGUAGE USING MACHINE LEARNING	PENYELIA UTAMA	ON GOING
15	DI1911002A	ZHING LIMIN	TEXT MINING	PENYELIA UTAMA	ON GOING

MASTER

NO	NO. MATRIK	NAMA	TITLE	TAHAP PENYELIA	STATUS
1	PK20108022	FLORENCE SIA FUI SZE	OPTIMIZED FEATURE CONSTRUCTION METHODS FOR DATA SUMMARIZATION OF RELATIONAL DATA	PENYELIA UTAMA	COMPLETED 2012
2	PK20108240	LEOW CHING LEONG	ENGLISH-MALAY PARALLEL CLUSTERING BASED ON HAC	PENYELIA UTAMA	COMPLETED 2013
3	PI20108028	SURAYAINI BT BASRI	ENHANCING THE NATURAL LANGUAGE PROCESSING FOR MALAY LANGUAGE: STEMMING, IDENTIFYING AND CORRECTING MISPELLED WORDS, IDENTIFYING NEOLOGISM	PENYELIA UTAMA	COMPLETED 2013
4	MI1511003T	MOHD SUHAIRI BIN MD SUHAIMIN	DETECTING SARCASM IN MALAY TEXT	PENYELIA BERSAMA	COMPLETED 2017
5	MM1211001T	KRISTY NG SZE NEE	DETERMINING ACCEPTANCE FACTORS FOR MOBILE PHARMACY IN MALAYSIA	PENYELIA BERSAMA	COMPLETED 2016
6	MK1211011T	CHANG SIM VUI	A HYBRID ENSEMBLE NEURAL COGNITION WITH SEMANTIC TECHNOLOGY FOR AUTOMATED STOCK MARKET PREDICTION	PENYELIA BERSAMA	COMPLETED 2017
7	MI1611011A	MANSOUR HASSANI ABDALLA	SEQUENTIAL AND PARALLEL IMPLEMENTATION OF INTEGER PROGRAMMING FOR SOLVING CURRICULUM BASED COURSE TIMETABLING PROBLEM	PENYELIA BERSAMA	COMPLETED 2018

CHAIR(S)

International Conference on Computational Science and Technology (ICCST)

1. The 7th International Conference on Computational Science and Technology (ICCST) – 2020
2. The 6th International Conference on Computational Science and Technology (ICCST) – 2019
3. The 5th International Conference on Computational Science and Technology (ICCST) – 2018
4. The 4th International Conference on Computational Science and Technology (ICCST) – 2017
5. The 3rd International Conference on Computational Science and Technology (ICCST) – 2016
6. The 2nd International Conference on Computational Science and Technology (ICCST) – 2014

International Conference on Computational Science and Engineering (ICCSE)

7. The 1st International Conference on Computational Science and Engineering (ICCSE) – 2016
8. The 2nd International Conference on Computational Science and Engineering (ICCSE) – 2017
9. The 3rd International Conference on Computational Science and Engineering (ICCSE) – 2018

TECHNICAL PROGRAM COMMITTEES / REVIEWER / EXTERNAL REVIEWER
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1. The 3rd International Conference on Information Retrieval and Knowledge Management 2016 (CAMP'16)
2. International Conference on Intelligent Systems, Modelling and Simulation (ISMS) - 2011, 2012, 2013, 2014
3. International Conference on Computational Intelligence, Communications Networks and Network (CICSyN) - 2010, 2011, 2012, 2013
4. International Conference on Computer Modelling and Simulation (UKSim) - 2011, 2012, 2013
5. International Conference on Computational Intelligence, Modelling and Simulation (CIMSIm) - 2010, 2011, 2012, 2013
6. European Modelling Symposium (EMS) - 2011, 2012, 2013
7. Asia Modelling Symposiums (AMS) - 2010, 2011, 2012, 2013
8. EUROSIM Congress on Modelling and Simulation (EUROSIM) – 2013
9. International Conference on Systems Informatics, Modelling and Simulation (SIMS) – 2013
10. Pacific Rim International Conference on Artificial Intelligence (PRICAI) – 2012
11. International Conference on Intelligent Systems and Informatics (ISI) – 2012
12. IEEE Symposium on Computers and Informatics – 2012
13. Malaysian Joint Conference on Artificial Intelligence (MJCAI) - 2010, 2011
14. International Journal of Simulation - Systems, Science and Technology (IJSST) - 2012, 2013, 2014

AWARDS

INNOVATION AND RESEARCH AWARDS

BIL	INNOVATION RESEARCH TITLE	RESEARCHERS	EXHIBITION	AWARDS
1	RTFaceDeep: A Real Time Multiple Faces Recognition for Video Surveillance Using a Deep Learning Architecture	Rayner Alfred , Rayner Henry Pailus	iENA2019, Nuremberg, Germany	GOLD
2	RTFaceDeep: A Real Time Multiple Faces Recognition for Video Surveillance Using a Deep Learning Architecture	Rayner Alfred , Rayner Henry Pailus	PECIPTA2019, Johor	GOLD
3	RTFaceDeep: A Real Time Multiple Faces Recognition for Video Surveillance Using a Deep Learning Architecture	Rayner Alfred , Rayner Henry Pailus	ITEX2019	GOLD
4	RTFaceDeep: A Real Time Multiple Faces Recognition for Video Surveillance Using a Deep Learning Architecture	Rayner Alfred , Rayner Henry Pailus	PEREKA 2018 UMS	GOLD
5	MADBOOST: Infrared Face Recognition Based on Ensemble Approach	Rayner Alfred , Rayner Henry Pailus	iENA2018, Nuremberg, Germany	SILVER
6	MADBOOST: Infrared Face Recognition Based on Ensemble Approach	Rayner Alfred , Rayner Henry Pailus	ITEX2018	GOLD
7	MADBOOST: Infrared Face Recognition Based on Ensemble Approach	Rayner Alfred , Rayner Henry Pailus	iCAN2018, Toronto, CANADA	GOLD
8	MADBOOST: Infrared Face Recognition Based on Ensemble Approach	Rayner Alfred , Rayner Henry Pailus	PEREKA 2017 UMS	GOLD
9	Feature Based Retinal Image Registration	Mohd Hanafi Ahmad Hijazi, Ruzanna Sapri, Lau Hui Keng, Rayner Alfred , Norhayati Daut	PEREKA 2014 UMS	SILVER
10	Bibliography System Development Using Hybrid Automated Entity Extraction and Semantic Technology	Chin Kim On, Rayner Alfred , Gan Kim Soon	PEREKA 2013 UMS	SILVER
11	A Rule-Based Named-Entity Recognition Framework for Malay Language	Rayner Alfred , Chin Kim On, Leow Ching Leong	PEREKA 2013 UMS	SILVER
12	A Robust Crawler for WWW for Information Retrieval	Rayner Alfred , Chin Kim On, Gan Kim Soon, Leow Ching Leong, Phang Wai san	PEREKA 2013 UMS	BRONSE
13	Automated Skin Lesion Diagnosis	Lau Hui Keng, Mohd Hanafi Ahmad Hijazi, Daw Khin Saw Naing, Mya Sanda Khaing, Rayner Alfred , Jason Teo, Amelia Ritahani Ismail, Nurulhuda Fisdaus Mohd Azmi	PEREKA 2013 UMS	BRONSE
14	Fitness Function Generation for	Chin Kim On, Rayner Alfred ,	PEREKA 2013	BRONSE

	Simulated Car Racing Controllers Using Differential Algorithm	Jason Teo, Chi Jun Long	UMS	
15	A Comparison of Single and Multi-Objectives Optimization Algorithms for Autonomous Generation Offensive Strategy in RTS Game	Chin Kim On, Rayner Alfred , Jason Teo, Chang Kee Tong	PEREKA 2013 UMS	BRONSE
16	Autonomous Generation of Defensive Strategy Using Genetic Algorithm for Tower Defence Game	Chin Kim On, Rayner Alfred , Jason Teo, Yong Yung Nan, Tan Tse Guan	PEREKA 2013 UMS	SILVER
17	Image Mining for Image Classification: A Study to Screen Age-Related Macular Degeneration	Mohd Hanafi Ahmad Hijazi, Lau Hui Keng, Rayner Alfred , Frans Coenen, Yalin Zheng	PEREKA 2013 UMS	BRONSE
18	BioDARA: A Toolkit to Extract BioMedical Information and Structuring Based on Data Summarization	Rayner Alfred	PECIPTA 2011, KLCC, Malaysia	BRONSE
19	BioDARA: A Toolkit to Extract BioMedical Information and Structuring Based on Data Summarization	Rayner Alfred	SIIF 2010, Seoul, Korea	GOLD
20	BioDARA: A Toolkit to Extract BioMedical Information and Structuring Based on Data Summarization	Rayner Alfred	ITEX 2010, KLCC, Malaysia	GOLD
21	DARA: A Data Summarization Approach to Mining Patterns in a Biodiversity Database	Rayner Alfred	SIIF 2010, Seoul, Korea	BRONSE
22	DARA: A Data Summarization Approach to Mining Patterns in a Biodiversity Database	Rayner Alfred	PECIPTA 2009 KLCC, Malaysia	BRONSE
23	A Multi-Objectives Genetic Algorithm Based Approach to Summarize Relational Data	Rayner Alfred , Gabriel Jong Chiye	2015 IEEE Malaysia FYP Competition	GOLD
24	Topic Selection and Sentiment Analysis for Malay Articles	Rayner Alfred , Leow Jia Ren, Wong Wei Yee	2015 IEEE Malaysia FYP Competition	SILVER
25	An Optimized Scheduling for Hostel Room Allocation	Rayner Alfred , Melody Low Sui Ling, Hin Fuk Yu	2015 IEEE Malaysia FYP Competition	BRONSE