


Curriculum Vitae

Personal information

Name	Associate Professor Ts. Dr. Rizauddin Saian	
Address	College of Computing, Informatics and Media Universiti Teknologi MARA (UiTM) Perlis Branch, 02600 Arau, Perlis, Malaysia.	
Telephone	+6049882770 (office) WhatsApp-http://wa.rizauddin.com	
Email	rizauddin@uitm.edu.my	
Nationality	Malaysian	
Gender	Male	
Website	https://www.rizauddin.com/	
Google Scholar	https://scholar.google.com/citations?user=ithh22sAAAAJ&hl=en	
Scopus	https://www.scopus.com/authid/detail.url?authorId=36160769800	
GitHub (Software)	https://github.com/rizauddin	
Google Play (Android Apps)	https://play.google.com/store/apps/developer?id=Rizauddin+Saian	
YouTube Channel	https://www.youtube.com/channel/UCnpqtFxC-e48UVUC9AJWxsw	

Education

2013	Doctor of Philosophy, Universiti Utara Malaysia, Sintok, Kedah, Malaysia Title: A Hybrid of Ant Colony Optimization Algorithm and Simulated Annealing for Classification Rules.
2005	Master of Science (Information Technology), Universiti Utara Malaysia, Sintok, Kedah, Malaysia Title: Stemming Algorithm in Searching Malay Text.
1998	Bachelor of Science (Hons) (Mathematics), Universiti Malaya, Kuala Lumpur, Malaysia

Professional Qualification

2023	Professional Technologist, Malaysia Board of Technologists
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Experiences

2022–current	Working Associate Professor, UiTM Cawangan Perlis
2009–2022	Senior Lecturer, UiTM Cawangan Perlis
1999–2009	Lecturer, UiTM Cawangan Perlis
Sep. 2021–Aug. 2023	Administrative Head of Quality Unit, UiTM Cawangan Perlis

Mar. 2017–Feb. 2020	Head of Study Centre, Faculty of Computer & Mathematical Sciences, UiTM Cawangan Perlis
Feb. 2013–Dec. 2014	Postgraduate Coordinator, UiTM Cawangan Perlis
7 Apr. 2019–11 Apr. 2019	Visiting Fellowship Programme Fakultas Teknik, Universitas Islam Riau, Indonesia.
Courses Taught	
Undergraduate	MAT668 – Graph Theory MAT491 – Calculus III MAT421 – Calculus I MAT422 – Mathematical Logic & Proving Techniques MAT495/MAT295 – Partial Derivatives & Approximation Methods MAT530 – Introduction to Mathematical Modelling MAT535 – Nonlinear Programming
Diploma	MAT183 – Calculus I MAT261 – Intermediate Algebra MAT153 – Business Calculus MAT141 – Engineering Maths MAT105 – Fundamentals of Mathematics
Research Interests	
	Data Mining Machine Learning
Research Grants	
Sep. 2021–Aug. 2023	An Improved Ant Colony Optimization Feature Selection Algorithm for Modelling Bankruptcy of Malaysia Shariah-compliant Securities. FRGS/1/2021/STG06/UITM/02/8. Member.
Jan. 2021–Jun. 2022	Vehicle Routing Problem with Time Windows (VRPTW) Based Optimization Models for Sustainable e-Grocery Delivery using Homogeneous and Heterogeneous Fleet of Vehicles. 600-RMC/MITRANS_IRES 5/3(007/2020). Member.
Jan. 2019–Dec. 2021	Hierarchical Clustering based on Ant Colony Optimization Algorithm for Halal Compliance. TRGS/1/2018/UUM/02/3/3. Member.
Jan. 2019–Sep. 2021	A New Ant Based Decision Tree Algorithm for Imbalanced Medical Data. FRGS/1/2018/STG06/UITM/02/3. Head .
Dec. 2015–Nov. 2016	Smartphone Assisted Legal Writing. 600-RMI/DANA 5/3/ARAS (45/2015). Member.
Aug. 2012–Jul. 2016	Decision Models for Flood Disaster Early Warning and Risk Reduction. Long Term Research Grant Scheme (LRGS). UUM S/O Code: 12490. Member.
Nov. 2013–Nov. 2015	A Primary User Locality Strategy for Distributed Channel Strategy in Cognitive Radio Ad Hoc Networks. Fundamental Research Grant Scheme (FRGS). FRGS (600-RMI/FRGS 5/3 (157/2013)). Member.

Jul. 2013–Jun. 2014	Ant Based Rule Induction Algorithm. (2013-2014). Dana Kecemerlangan Pendidikan UiTM (Perlis). 600-UiTMPs/PJIM&A/ST/DKCP (02/2012). Head.
Apr. 2012–Apr. 2014	Boundary Value Problems in Deformation of Beam. Fundamental Research Grant Scheme (FRGS). 600-RMI/FRGS 5/3 (9/2012). Member.
Apr. 2010–Mar. 2011	A New Ant Based Rule Extraction Algorithm for Web Classification. Fundamental Research Grant Scheme (FRGS). UUM S/O Code: 11873. Member.

Honors, Awards, and Accomplishments

2020	Anugerah Perkhidmatan Cemerlang (Excellent Service Awards) UiTM 2020. Anugerah Penerbitan Jurnal Berindeks. Majlis Anugerah Semarak Sanjung, UiTM Cawangan Perlis 2020.
2019	Anugerah Semarak Penyelidikan (Vibrant Research Award) UiTM Cawangan Perlis 2019.
2013	Anugerah Perkhidmatan Cemerlang (Excellent Service Awards) UiTM 2013.

Editorial Duties

Jan. 2023–Dec. 2025 Jan. 2020–Dec. 2022 Jan. 2017–Dec. 2019	Editorial Board Journal of Information and Communication Technology (JICT). ISSN 1675-414X. Scopus Q1. http://jict.uum.edu.my/
2021	Technical Program Committee The 6th International Conference on Soft Computing in Data Science (SCDS 2021). https://aaec.uitm.edu.my/scds2021/
2015	The 1st International Conference on Soft Computing in Data Science (SCDS 2015). https://fskm.uitm.edu.my/scds2015/
2021	Reviewer The 6th International Conference on Soft Computing in Data Science (SCDS 2021). https://aaec.uitm.edu.my/scds2021/
Jan. 2018–Dec. 2020	Malaysian Journal of Computing (MJoC). https://mjoc.uitm.edu.my
2019	The 5th International Conference on Soft Computing in Data Science (SCDS 2019). https://aaec.uitm.edu.my/scds2019/
2018	The 4th International Conference on Soft Computing in Data Science (SCDS 2018). https://aaec.uitm.edu.my/scds2018/

2017	<p>The 6th International Conference on Computing and Informatics 2017 (ICOCI2017). http://www.icoci.cms.net.my/icoci2017/</p> <p>The 3rd International Conference on Soft Computing in Data Science (SCDS 2017). https://aaec.uitm.edu.my/scds2017/</p>
2016	The 2nd International Conference on Soft Computing in Data Science (SCDS 2016). https://fskm.uitm.edu.my/scds2016/
2015	The 1st International Conference on Soft Computing in Data Science (SCDS 2015). https://fskm.uitm.edu.my/scds2015/
Supervisions	
PhD Supervision	
2019–	Muhammad Hasbullah Mohd Razali. PhD (Statistics) CS953. A New Ant Based Decision Tree Algorithm for Imbalance Data. Main Supervisor. (In progress).
2021–	Ros Fadilah binti Deraman. PhD (Mathematics) CS952. Higher Order Finite Difference Method For Solving Goursat Problem. Co-Supervisor. (In progress).
Masters Supervision	
2021–	Annuur Zakiah binti Zainol. MSc (Mathematics) CS752. An Improved Ant Colony Optimization Algorithm for Predicting Bankruptcy in Malaysia. Main Supervisor. (In progress)
2021–	Nurhazimah binti Basir. MSc (Transport and Logistics) (LT780). Multi-Objective Mixed Integer Programming Model of Vehicle Routing Problem for Sustainable Urban e-Grocery Delivery. Co-Supervisor. (In progress).
2019–	Nur Hadirah binti Khairul Anwar. MSc (Mathematics) CS752. Predicting Diabetes Using Ant Colony Optimization. Main Supervisor.
2016–2018	Siti Nor Fathihah Azahari. Master of Science (Mathematics) CS752. Fuzzy Time Series Sliding Window Model for Rainfall Forecasting. Main Supervisor. Completed 6 February 2018.
Undergraduate International Research Interns	
2019	Angga Ibnu Kholid. Universitas Islam Riau. 16/7/2019–7/8/2019
2018	Josua Iwanda & Sigit Prihantoro. Universiti Islam Riau. Lecturer Room Inventory System. 1/8/2018–27/8/2018.
	Bima Augustian Wana Putra & Royan Permana Rivaldi. Universiti Islam Riau. Library Room Reservation System. 8/1/2018–30/1/2018.
Undergraduate Research Interns	
2017	Daniel Chan. Diploma Sains Komputer (CS110). Science Laboratory Inventory System. 2/5/2017–25/6/2017.
Undergraduate International Project Supervision	

2020	Shella Eldwina Fitri. Universiti Islam Riau. Macro and Micro Graph Search: Optimizing A* Search Algorithm in Big Data. Completed January 2021.
	Undergraduate Project Supervision
2023	Nur Insyirah binti Ahmad Zammami. E-commerce text classification using Ant Colony Optimization. (In progress).
2022	Nur Aisyatul Husna Ahmad Yusri. Early Diabetes Risk Prediction using Ant Colony Optimization. Completed March 2023.
	Azfaruddin Azri. Prediction of Stroke using Ant Colony Optimization. Completed March 2023.
2021	Nurul Hanis Syafiqah binti Mohd Ripin. Predicting Mortality Caused by Heart Failure using Ant Colony Optimization. Completed January 2022.
	Nurul Fathihah binti Mustapha. Prediction of Lung Cancer using Ant Colony Optimization. Completed August 2021.
2020	Nur Ibtisyam binti Zafri. Predicting Autistic Spectrum Disorder for Toddler using Ant Colony Optimization. Completed January 2021.
	Siti Sarah Aqilah binti Che Ani. Predicting Breast Cancer using Ant Colony Optimization. Completed January 2021.
2019	Siti Aisyah binti Ismail. Predicting Heart Disease using Ant Colony Optimization. Completed June 2020.
	Nur Syafiqah binti Abdul Ghani. Predicting Bankruptcy using Ant Colony Optimization. Completed June 2020.
	Noor Shafiqah Fazlien. Predicting Attackers of Online Shaming using Ant Colony Optimization. Completed June 2019.
2018	Aliff Adham bin Adnan. Prediction of Health Supplement Consumption using Ant Colony Optimization. Completed Dec 2018.
	Abdul Abbas Abdul Karim He. Predicting Area of Law Using Ant Colony Optimization. Completed May 2018.
2017	Umi Nasyrah binti Norizan. Predicting Timah Tasoh Reservoir Water Level Stages Using Ant Colony Optimization. Completed June 2017.
	Nor Amira Natasha Abd Rahman. Predicting Perlis Water Quality Using Ant Colony Optimization. Completed June 2017.
	Nurnabilah Mohd Nasir. Predicting Water Quality Index of Pulau Pinang River Using Ant Colony Optimization. Completed Dec. 2017.

2016	Syaidatul Nadia Sabri. Ant Colony Optimization for Forecasting Flood Based on Rainfall Distribution in Perlis. Completed June 2016.
	Nurfaezah Mohamad Zahir. Ant Colony Optimization for Predicting Sg. Arau Water Level. Completed Dec. 2016.
	Muhammad Arimi Syakir Ismail. Ant Colony Optimization for Predicting Water Crisis in Perlis. Completed June 2016.
	Nur Wahida Baharuddin. Ant Colony Optimization for Forecasting Flood Based on River Water Level in Perlis. Completed June 2016.
2015	Nurul Atiqah Dzulkifly. Ant Colony Optimization Algorithm for Predicting Dengue Fever Types. Completed June 2015.
	Zarin Sofia Zahari. Ant Colony Optimization Algorithm for Predicting Inflation Types in Malaysia. Completed June 2015.
	Nor Astiqah Omar. Ant Colony Optimization for Prediction Software Piracy Tendency. Completed Dec. 2015.
2014	Nur'Aisyah Abdul Wahab. Factor Influencing Grape Production in Perlis: A Multiple Linear Regression Analysis. Completed Jun. 2014.
	Nor Dalila Razali. Financial Credit Scoring Prediction Using Ant Colony Optimization. Completed Dec. 2012.

Innovations

2021	Saian R. & Mohd Zakuan Z. Z. (2021). CaseFinder-A Smartphone App for Searching Legal Cases. 4th Digitalised International Invention, Innovation and Design, Johor 2021. 20 February 2021 – 23 September 2021 https://play.google.com/store/apps/details?id=com.rizauddin.casefinder
	Saian R. & Mohd Zakuan Z. Z. (2021). CaseFinder-A Smartphone App for Searching Legal Cases. The 10th Seminar on Innovation and Creativity (SIC 2021). Silver Medal. 12–17 July 2021 https://play.google.com/store/apps/details?id=com.rizauddin.casefinder
	Saian R., Teoh Y. K. & Abu Hasan S. (2021). Covid-19 SIR Model with Vaccination. 4th International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity 2021 (iMIT SIC 2021). Bronze Medal. 24 August 2021 https://data-miners.github.io/projects/covid19/
	Saian R., Teoh Y. K. & Abu Hasan S. (2021). Covid-19 SIR Model with Vaccination. The 10th Seminar on Innovation and Creativity (SIC 2021). Silver Medal / Top 3 Video Award. 12–17 July 2021 https://data-miners.github.io/projects/covid19/
2018	Saian R. & Mohd Zakuan Z. Z. (2018). Smartphone Assisted Legal Writer (SALeW). 1st Digitalised International Invention, Innovation & Design Competition Johor 2018. Gold Medal. 19 April 2018 – 1 July 2018 https://play.google.com/store/apps/details?id=com.rizauddin.salew

2017	<p>Saian R., Abdul Halim N., Darus N. A. Mohd Zakuan Z. Z. & Mat Hadzir N. (2017). Research Objectives Aid (ROA). Invention, Innovation & Design Exposition (iidex2017). Bronze Medal. 25–29 August 2017 https://play.google.com/store/apps/details?id=com.rizauddin.roa</p> <p>Saian R. & Mohd Zakuan Z. Z. (2017). Smartphone Assisted Legal Writer (SALeW). The International Conference and Competition on Teaching and Learning (i-TeLearN2017). Silver Medal. 16 August 2017 https://play.google.com/store/apps/details?id=com.rizauddin.salew</p>
2016	<p>Saian R., Mohd Zakuan Z. Z., Darus N. A. & Abdul Halim N. (20–23 September 2016). Smartphone Assisted Legal Writer (SALeW). Invention, Innovation & Design Exposition (iidex2016). Bronze Medal. https://play.google.com/store/apps/details?id=com.rizauddin.salew</p>
2015	<p>Saian R. & Mohd Zakuan Z. Z., Darus N. A., Abdul Halim N., Mat Hadzir N. (27–30 April 2015). Anti-Plagiarism Graph Generator (APGG). Invention, Innovation & Design Exposition (iidex2015). Gold Medal. https://github.com/rizauddin/apgg</p>
2012	<p>Saian R. & Mohd Zakuan Z. Z. (7 April 2012). Malay Legal Text Indexer (Malay-LETI). <i>Invention, Innovation & Design 2012</i>, Universiti Teknologi MARA (Perlis). Bronze Medal.</p>

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2023	<p>Statistical Distance Evaluation Calculator. 7/2/2023. ref:CRLY2022W04865.</p>
2021	<p>Halal Manufacturing Validator. 14/3/2021. ref:LY2021P02469.</p> <p>Halal Source Validator. 14/3/2021. ref:RLY2021P02470.</p>

Android Apps Developments

Google Play	<p>https://play.google.com/store/apps/developer?id=Rizauddin+Saian&hl=en_US</p>
2021	<p>CaseFinder. A helpful tool for students to find legal cases in for Malaysia anywhere and at any time. https://play.google.com/store/apps/details?id=com.rizauddin.casefinder</p>
2018	<p>SALeW-Legal Writing. An app that guide the students throughout the process of answering law questions. https://play.google.com/store/apps/details?id=com.rizauddin.salew</p>
2017	<p>Research Objectives Aid. An app that provide students with a practicing tool in formulating correct keywords for their research objectives in their research paper. https://play.google.com/store/apps/details?id=com.rizauddin.roa</p>

- 2016 Ukur Tanah. A simple Malaysia land length and area units converter. <https://play.google.com/store/apps/details?id=com.rizauddin.ukurtanah>
- Zakat Calculator. A simple app to calculate Zakat. <https://play.google.com/store/apps/details?id=com.rizauddin.zakatcalc>
- Car Loan Calculator. A simple app to calculate monthly payments for car loan. <https://play.google.com/store/apps/details?id=com.rizauddin.carloancalc>
- Home Loan Calculator. A simple app to calculate monthly payments for home loan. <https://play.google.com/store/apps/details?id=com.rizauddin.homeloancalc>
- Discount Calculator. A simple app to calculate discounted price. <https://play.google.com/store/apps/details?id=com.rizauddin.disccalc>

LaTeX Template

- 2021 uitmthesis - uitmthesis is a LaTeX class for writing thesis, dissertation or final year project report. This class was developed based on the "Guidelines on Thesis/Dissertation Format" handbook by IPSis Universiti Teknologi MARA (UiTM).
Overleaf: <http://bit.ly/uitmthesis-overleaf>
Github (Source Code): <https://github.com/rizauddin/uitmthesis>

Python

- 2016 APGG - Anti-Plagiarism Graph Generator
The "Anti-Plagiarism Graph Generator" program is developed to prevent plagiarism in Graph Theory course programming assignments.
Github (Source Code): <https://github.com/rizauddin/apgg>

Invited Talks

- 2022 Analitik Data Raya Dalam Pengauditan (Siri 1). Organized by Jabatan Audit Negara. 2 April 2022. Zoom.
- 2021 Gegar RIG-Semarak Penyelidikan: Proposal. Organized by FSKM, UiTM Perlis. 2 August 2021. Google Meet.
- LaTeX Workshop: Writing Thesis in LaTeX for UiTM Students. Organized by FSKM, UiTM Perlis. 22 March 2021. Google Meet.
- Optimizing FYP Into Journal Publications. Organized by FSKM, UiTM Perlis. 10, 23, 24 March 2021. Google Meet.
- Bengkel Penilaian Peperiksaan Akhir Secara Atas Talian. Organized by FSKM, UiTM Perlis. 1 January 2021. Bilik IT, Perpustakaan Dato' Jaafar Hassan, UiTM Perlis.

2020	Calculus 1 is Easy. Organized by FSKM, UiTM Perlis. 20 June 2020. YouTube Live Streaming. https://youtu.be/a0zQqGvqWHA
2019	<p>Scientific Programming Using Excel VBA for Beginners. Organized by Persatuan Manatics, UiTM Perlis. LT1, UiTM Perlis.</p> <p>Introduction to Google Forms. Organized by UiTM Perlis. 19 July 2019.</p> <p>Video Pitching Workshop. Organized by FSKM, UiTM Perlis. 3 May 2019.</p> <p>Python Workshop. Organized by Manatics, UiTM Perlis. 19 April 2019.</p> <p>Mendeley Workshop. Organized by Prodi Teknik Informatika, Universitas Islam Riau. 10 April 2019.</p> <p>LaTeX Workshop for Students. Organized by Prodi Prodi Teknik Informatika, Universitas Islam Riau. 10 April 2019.</p> <p>Python Programming. Organized by Prodi Teknik Informatika, Universitas Islam Riau. 10 April 2019</p> <p>Talk: Data mining – Concept and its Applications. Organized by Prodi Teknik Informatika, Universitas Islam Riau. 9 April 2019.</p> <p>LaTeX Workshop for Lecturers. Organized by Prodi Teknik Informatika, Universitas Islam Riau. 9 April 2019.</p> <p>Talk: Data Classification with Ant Colony Optimization. Organized by Prodi Teknik Informatika, Universitas Islam Riau. 8 April 2019.</p> <p>Video Animation Workshop. Organized by Prodi Teknik Informatika, Universitas Islam Riau. 8 April 2019.</p>
2018	<p>Video Animation for Beginners. Organized by FSKM, UiTM Perlis. 26 October 2018.</p> <p>Simple LaTeX Tutorial. Organized by FSKM, UiTM Perlis. 20 July 2018. https://github.com/rizauddin/simple-latex-tutorial</p>
2017	<p>Introduction to Python Programming for Calculus. Organized by FSKM, UiTM Seremban 3. 19 October 2017. https://github.com/rizauddin/Lab-Assignment-MAT421</p> <p>Screencast-o-matic (in "Taklimat Pembangunan MOOCs Storyboard"). Organized by UiTM Cawangan Perlis. 22 May 2017.</p> <p>Zotero Reference Manager (in "Bengkel Jom tulis Artikel"). Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 21 April 2017.</p>

2016	Data Science with Ant Colony Optimization (in "50 Shades of Data Science? Real Data Science. Real World. Real Results" Forum). Organized by Axiata Intelligence Unit, Axiata Group Berhad. Axiata Tower, Kuala Lumpur. 5 October 2016.
	Android Application Development Workshop. Bilik IT, Perpustakaan Dato' Jaafar Hassan, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 3 September 2016.
	Anti-Plagiarism Graph Generator. Lightning Talk. PyCon MY 2016. International University of Malaya-Wales (IUMW). 27 August 2016.
	Android Workshop for CS143. Bilik IT, Perpustakaan Dato' Jaafar Hassan, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 27 February 2016.
	Final Year Project MSP660 Writing Style. Bilik Inovasi, PJI, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 26 February 2016.
	Scientific Programming Using Excel for Beginners: Newton's Method. Lab 1, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 5 February 2016.
2015	Hybrid Smartphone App Development: An Introduction. Lab 1, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 22 January 2016.
	Android Apps Development. Lab 2, UiTM Cawangan Perlis. 17 September 2015.
2013	Python Programming. Bilik IT, Perpustakaan Dato' Jaafar Hassan, UiTM Cawangan Perlis. Organized by iLQAM UiTM Cawangan Perlis. 14 May 2015.
	Marking Assignment Electronically (e-marking). Bilik IT, Perpustakaan Dato' Jaafar Hassan, UiTM Cawangan Perlis. Organized by iLQAM UiTM Cawangan Perlis. 27 September 2013.
2009	Kursus EndNote. Bilik IT, Perpustakaan Dato' Jaafar Hassan, UiTM Cawangan Perlis. Organized by iLQAM, UiTM Cawangan Perlis. 22 January 2013.
	Bengkel Kemahiran Komputer (Membina Blog). Makmal 9, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 2 October 2009.
2008	Bengkel \LaTeX . Makmal Komputer (Pensyarah), UiTM Cawangan Perlis. Organized by Unit Penyelidikan, Pembangunan & Pengkomersilan (URDC), UiTM Cawangan Perlis. 17 June 2008.

- 2006 Bengkel DreamWeaver. Makmal Bahasa 3 & 4, UiTM Cawangan Perlis. Organized by Akademi Pengajian Bahasa, UiTM Cawangan Perlis. 12–13 April 2006.
- Bengkel Matematik (Maple). Makmal Komputer 3, UiTM Cawangan Perlis. Organized by Persatuan Q-Sciences, UiTM Cawangan Perlis. 26 March 2006.
- 2005 Bengkel Penggunaan Microsoft Access. Makmal Komputer 3, UiTM Cawangan Perlis. Organized by DICE, UiTM Cawangan Perlis. 29–30 June 2005.
- Bengkel Pemantapan Perisian Microsoft Excel. Makmal Bahasa 3, UiTM Cawangan Perlis. Organized by Jabatan Sains Matematik & Statistik, UiTM Cawangan Perlis. 18 April 2005.

Publications

- 2022 Nasution, A. H., Fitri, S. E., Saian, R., Monika, W., & Badruddin, N. (2022). Determining intermediary closely related languages to find a mediator for intertribal conflict resolution. *Information (Switzerland)*, 13(12), 557. <https://doi.org/10.3390/info13120557>
- Mohd Razali, M. H., Saian, R., Moktar, B., Bee Wah, Y., & Ku-Mahamud, K. R. (2022). Performance of ACO-based decision tree algorithm with imbalanced class data sets—A heuristic approach. 2022 3rd International Conference on Artificial Intelligence and Data Sciences (AiDAS), 29–38. <https://doi.org/10.1109/AiDAS56890.2022.9918761>
- Zakuan, Z., & Saian, R. (2022). Cyberbullying victimization during COVID-19: Psychological effects and the legal measures. *International Journal of Public Health Science*, 11(1), 232–239. <https://doi.org/10.11591/ijphs.v11i1.21047>
- 2021 Saian, R., & Mohd Zakuan, Z. Z. (2021). Casefinder: A Non-Law Students Smartphone App for Legal Writing. 2021 3rd International Conference on Modern Educational Technology, 13–19.
- Mohd Razali, M. H., Saian, R., Yap, B. W., & Ku-Mahamud, K. R. (2021). An improved ACO-based decision tree algorithm for imbalanced datasets. *International Journal Mathematical Modelling and Numerical Optimisation*, 11(4), 412–427.
- Mohd Razali, M. H., Saian, R., Yap, B. W., & Ku-Mahamud, K. R. (2021). A class skew-insensitive ACO-based decision tree algorithm for imbalanced data sets. *Indonesian Journal of Electrical Engineering and Computer Science*, 21(1), 412–419.
- Anwar, N. H. K., Saian, R., & Bakar, S. A. (2021). An enhanced ant colony optimization with Gini index for predicting type 2 diabetes. *AIP Conference Proceedings*, 2365(1), 020004.

- 2020 Saian, R., Mohd Zakuan, Z. Z., Hashim, H., & Mahmood, A. (2020). Smartphone app for searching legal cases for non-law students. *International Journal on Emerging Technologies*, 11(4), 419–422.
- Saian, R., Mohamad Fauzi, N. S. F., Mohd Zakuan, Z. Z., Hashim, H., & Mahmood, A. (2020). Predicting attackers of cyberbullying using ant colony optimization in combating psychological effects among the victims. *International Journal on Emerging Technologies*, 11(5), 205–208.
- Anwar, N. H. K., & Saian, R. (2020). Predictive Accuracy for Two Diabetes Datasets using Ant-Miner Algorithm. *International Journal of Scientific and Technology Research*, 9(4), 239–242.
- Kadir, E. A., Dayana, N. E., Rosa, S. L., Othman, M., & Saian, R. (2020). Prediction of Hotspots in Riau Province, Indonesia Using the Autoregressive Integrated Moving Average (ARIMA) Model.
- 2019 Abdul Wahab, N., & Saian, R. (2019). Empowering Research Skills Among Undergraduates: Focus on Computer and Mathematics Students.
- Saian, R. (2019). A Simple Zotero Tutorial. In *Empowering Research Skills Among Undergraduates: Focus on Computer and Mathematics Students* (pp. 52–59).
- Zahir, N. M., & Saian, R. (2019). Ant Colony Optimization For Predicting Flood Based On River Water Level. *International Journal of Scientific & Technology Research*, 8(11), 40–43.
- Labellapansa, A., Syafitri, N., Abdul Kadir, E., Saian, R., Saibah, A., Ahmad, M., & Nurain, S. (2019). Prototype for early detection of fire hazards using fuzzy logic approach and Arduino microcontroller. *International Journal of Advanced Computer Research*, 9, 276–282. <https://doi.org/10.19101/IJACR.PID47>
- Syafitri, N., Labellapansa, A., Kadir, E. A., Saian, R., Zahari, N. N. A., Anwar, N. H. K., & Shaharuddin, N. E. M. (2019). Early Detection of Fire Hazard Using Fuzzy Logic Approach. *International Journal of Advanced Computer Research*, 9(43), 252–259.

- 2018 Saian, R., Abbas, M. A. (2018). Proceedings of the Second International Conference on the Future of ASEAN (ICoFA) 2017 - Volume 2, Springer Singapore. <https://link.springer.com/book/10.1007%2F978-981-10-8471-3>
- Azahari, S. N. F., Saian, R., Othman, M. (2018). Forecasting Rainfall Based on Fuzzy Time Series Sliding Sindow Model, Proceedings of the Second International Conference on the Future of ASEAN (ICoFA) 2017. Volume 2, Springer Singapore. https://link.springer.com/chapter/10.1007/978-981-10-8471-3_14
- Abd Aziz, K. A., Abduh, W. M. Y. M., Idris, M. F. I. M., & Saian, R. (2018). An evaluation of binomial model with implied volatility in pricing warrant. *Jurnal Intelek*, 13(1), 37–43.
- Zakuan, Z. Z. M., Saian, R., & Ismail, R. (2018). Innovation In Legal Education: SAlEW As A Non-Law Students' Tool For Legal Writing. *International Journal of Scientific and Technology Research*, 7(11), 123–126.
- 2017 Saian, R., & Zakuan, Z. Z. M. (2017). SAlEW: A Non-Law Students' Tool for Legal Writing. *Asian Journal of Management Sciences & Education*, 6(3), 139–143. <http://ci.nii.ac.jp/naid/40021277771/>
- Sabri, S. N., & Saian, R. (2017). Predicting Flood in Perlis Using Ant Colony Optimization. *Journal of Physics: Conference Series*, 855(1), 12040. <https://doi.org/10.1088/1742-6596/855/1/012040>
- Omar, N. A., Zakuan, Z. Z. M., & Saian, R. (2017). Software Piracy Detection Model Using Ant Colony Optimization Algorithm. *Journal of Physics: Conference Series*, 855(1), 12031. <https://doi.org/10.1088/1742-6596/855/1/012031>
- Azahari, S. N. F., & Saian, R. (2017). An Enhancement of Sliding Window Algorithm for rainfall Forecasting. Proceedings of the 6th International Conference on Computing and Informatics, ICOCI 2017 (pp. 23–28).
- 2016 Ruslan, R., Nor, A. H. M., Saian, R., Omar, M. H., & Manaf, M. (2016). Performance Evaluation of Wi-Fi and White-Fi: Simulation Approach. 2016 UKSim–AMSS 18th International Conference on Computer Modelling and Simulation (pp. 343–346).
- 2015 Mohamed, M., Jusoh, M. S., Saian, R., Fadzil, M. N., & Noorani, M. S. M. (2015). Existence of positive solution to a second order m-point boundary value problem. *Global Journal of Pure and Applied Mathematics*, 11(5), 3639–3653.
- 2014 Ruslan, R., Saian, R., & Teramizi, N. M. (2014). Performance Analysis of AODV and WCETT Routing Protocols in Cognitive Radio Ad-Hoc Network (CRAHN). International conference on Intelligent Systems, Modelling and Simulation (ISMS 2014).

- 2013 Othman, M., Saian, R., Nazri, M. N., Kamal, N. S. A., & Liyana, N. (2013). Fuzzy Forecasting For Water Level of Flood Warning System in Perlis. International Symposium on Mathematical Sciences & Computing Research 2013 (iSMSC 2013). Perak, Malaysia.
- 2012 Abd Aziz, K. A., Mohd Idris, M. F. I., & Saian, R. (2012). Adaptation of Warrant Price with Black Scholes Model and Historical Volatility. Proceedings of 2nd Regional Conference on Applied and Engineering Mathematics (RCAEM-II). Penang, Malaysia: UNIMAP.
- Saian, R., & Ku-Mahamud, K. R. (2012). Ant Colony Optimization for Rule Induction with Simulated Annealing for Terms Selection. UKSim 14th International Conference on Computer Modelling and Simulation (UKSim2012) (pp. 33–38). Cambridge, United Kingdom: IEEE Computer Society. doi:<http://doi.ieeecomputersociety.org/10.1109/UKSim.2012.115>.
- 2011 Ku Mahamud, K. R., & Saian, R. (2011). A New Ant Based Rule Extraction Algorithm for Web Classification (No. FRGS S/O code 11873). Kedah, Malaysia: College of Arts and Sciences, Universiti Utara Malaysia.
- Saian, R., & Ku-Mahamud, K. R. (2011). Classification Rule Discovery with Ant Colony Optimization. Second International Soft Science Conference (ISSC 2011). Ho Chi Minh City, Vietnam.
- Saian, R., & Ku-Mahamud, K. R. (2011). Hybrid Ant Colony Optimization and Simulated Annealing for Rule Induction. UKSim 5th European Symposium on Computer Modeling and Simulation (pp. 70–75). Madrid, Spain: IEEE Computer Society. doi:<http://doi.ieeecomputersociety.org/10.1109/EMS.2011.17>.
- 2010 Saian, R., & Ku-Mahamud, K. R. (2010). Comparison of Attribute Selection Methods for Web Texts Categorization. Second International Conference on Computer and Network Technology (ICCNT2010) (pp. 115–118). Bangkok, Thailand: IEEE Computer Society. doi:<http://doi.ieeecomputersociety.org/10.1109/ICCNT.2010.13>.
- 2004 Saian, R., & Ku-Mahamud, K. R. (2004). Searching Malay Text using Stemming Algorithm. Journal of Information and Communication Technology (JICT), 3(2), 107–117.
- 1998 Ting, K. L., Saian, R., Lim, K. G., & Wahiddin, M. R. (1998). Quantum Trajectory Simulations of the Photon Statistics of a Cavity QED Laser. Jurnal Fizik Malaysia, 19(3), 99–103.