



Tajul Rosli Razak

📍 School of Computing Sciences, College of Computing, Informatics and Media, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, MALAYSIA

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📘 Tajul Rosli Razak

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WORK EXPERIENCE

2022 – present

Senior Lecturer

Universiti Teknologi MARA, Selangor, MALAYSIA

- School of Computing Sciences, College of Computing, Informatics and Media.

2020 – 2022

Senior Lecturer

Universiti Teknologi MARA, Perlis Branch, Arau Campus, MALAYSIA

- Faculty of Computer Science and Mathematics.

2011 – 2020

Lecturer

Universiti Teknologi MARA, Perlis Branch, Arau Campus, MALAYSIA

- Faculty of Computer Science and Mathematics.

2009 – 2011

Teacher

Sekolah Berasrama Penuh Intergrasi Kubang Pasu, Kedah, MALAYSIA

- ICT Literacy and Mathematics.

2007 – 2009

Research Assistant

Universiti Utara Malaysia, Kedah, MALAYSIA

EDUCATION

2020

Doctor of Philosophy (Computer Science)

School of Computer Science, University of Nottingham, United Kingdom

- Thesis title: *"Towards Designing and Measuring Interpretable Hierarchical Fuzzy Systems"*

2010

Master of Science (Intelligent System)

Universiti Utara Malaysia, Malaysia

- Thesis title: *"Automated Data Integration, Cleaning, and Analysis for Technical School Data Management in Malaysia"*
- CGPA: 3.76/4

2009

Post Graduate Diploma in Education

Universiti Utara Malaysia, Malaysia

- Field of Study: ICT
- CGPA: 3.63/4

2007

Bachelor's Degree (Information Technology)

Universiti Utara Malaysia, Malaysia

- Major: Artificial Intelligent
- CGPA: 3.31/4

FIELD OF EXPERTISES

- Data Mining
- Machine Learning
- Fuzzy Logic Systems
- Artificial Neural Network
- Hierarchical Fuzzy Systems
- Interpretable Systems
- Decision Support Systems

TEACHING (Courses Taught)

CSC134: Computer and Information Processing
CSC253: Interactive Multimedia
CSC318: Web Application Development
CSC401: Fundamentals of Computer Science
ITS232: Introduction to Database Management System
ITS332: Information System Development
ISP550: Information Systems Engineering
CSP600: Project Formulation
CSP650: Project
ITS665: Data Mining
ISP568: Fuzzy Logic Systems
CSC569: Principle of Compiler
CSC788: Data Visualisation

ADMINISTRATIVE WORKS

- 2021 – 2022 Coordinator of Industry, Community and Alumni Network (ICAN), UiTM Perlis Branch.
- 2020 – 2021 Coordinator of UiTM Press, UiTM Perlis Branch.
- 2020 – 2022 Advisor of Bachelor in IT Society (BiTS) UiTM Perlis Branch.

SUPERVISION

Postgraduate Students:

- PhD*
- Jiang Rongzheng - *Ongoing*
- MSc.*
- Nurul Hanan Binti Anuar - *Ongoing*
 - Hafiza Binti Aziz - *Ongoing*
 - Muhammad Aiman Bin Md Zuki - *Ongoing*
 - Aziani Binti Ahmad Sha'arani - *Ongoing*
 - Lu Xupeng- *Ongoing*

Undergraduate Students:

- 2023
- Muhammad Afiq Akmal Bin Sukiman - *Car Recommendation System*
 - Aina Nabila Ahmad Kamil - *Plate Number Recognition for Parking Management System*
 - Mohd Nazzim Bin Lahaji - *News Headline Sarcasm Detection*
 - Mohamad Nazwan Bin Mohd Fauzi - *Web Application For Analyzing Car Prices*
- 2022
- NorHafizah Bt Ayob - *Mybuku Pink Mobile Application Using Android*
 - Nur Syifa binti Ramzi - *Data Visualization On Student Stress Level*
 - Anis bt Roslan - *E-Quiz System: A Pathway to Improve English Learning for Preschoolers in Rural Areas*
 - Nurul Amirah Zamzuri - *Mobile Application: A Smart Sanitization Monitor for Work-place*
 - Nor Hafiza Aziz - *Detection of Bacterial Leaf Blight (BLB) Disease using RGB-Based Vegetation Indices and Fuzzy Logic*

- | | |
|------|---|
| 2021 | <ul style="list-style-type: none"> • Nor Syazana Binti Abdul Kodit - <i>Movie Recommendation System with Collaborative Filtering</i> • Nurul Farhana Natrah Binti Johari - <i>Web-Based Smart Medical Appointment Management System</i> • Hani Shahida Binti Adanan - <i>Web-Based System for Online Examination Management</i> • Mohamad 'Isa Bin Ab Malik - <i>Water Quality Monitoring System Using IoT And Machine Learning</i> • Mohamad Hanis Bin Mohd Yusoff - <i>Developing A Fuzzy Expert System For Diabetes Diagnosis</i> • Nur Ilyani Binti Mohd Zulkiflee - <i>Quantify Above Ground Biomass and Carbon Stock using Machine Learning</i> |
| 2020 | <ul style="list-style-type: none"> • Anis Jannah Binti Dahalan - <i>IoT Based: Heart Rate Classification applying Fuzzy Logic Systems</i> • Nazifa Adila binti Khairol Faizi - <i>The Fuzzy Logic System and Internet of Thing for Grading Harum Manis Mango</i> • Aliaa Zafirah Binti Zainal - <i>Checking Quality and Freshness of Harumanis Mango Uisng IoT Based: Developing a Project for Farm Workers and Buyers in UiTM Perlis</i> |
| 2019 | <ul style="list-style-type: none"> • Muhammad Aniq Abqari B. Rahizad - <i>Smart Detection Ball-Out System Based on Infrared Sensor</i> |
| 2014 | <ul style="list-style-type: none"> • Nur Fatin Farahin Bt Shamsul - <i>Career Path Selection Recommendation System (CPSRS) for UiTM Student</i> • Nurika Filzah Bt Mahadi - <i>Hybrid Approach For Heart Disease Diagnosis</i> • Muhamad Khairullah B. Mohtar - <i>Fish Freshness Classification on 'Atule Mate' using Fuzzy Logic</i> • Mohd Syahir Alfathul Amin B. Mohd Ripin - <i>Modeling The Quality of Harumanis Mango (MA 128) Grading using Fuzzy Logic System</i> |
| 2013 | <ul style="list-style-type: none"> • Nur Hidayah Bt. Mohd Daud - <i>Dengue Disease Diagnosis using Expert System</i> • Muhammad Hermi B. Ramli - <i>Dengue Notification System using Fuzzy Logic</i> • Diyana Farhana Bt. Daud - <i>Fuzzy Classification For Grading of 'Nam Dok Mai' Mango</i> • Nurul Ain Bt. Idris - <i>Financial Performance Evaluation of Industry Companies in Malaysia using Fuzzy Logic Approach</i> |
| 2012 | <ul style="list-style-type: none"> • Ahmad Hasyim B. Che Manan - <i>Measuring Palapes UiTM Perlis Cadet Performance For Promotion To Next Higher Grade Using Expert System</i> |

HONORS, AWARDS, ACCOMPLISHMENTS

- | | |
|------|---|
| 2022 | Active Publishing Awards 2021: Technology Science Category (<i>Anugerah Penerbitan Aktif 2021: Kategori Sains Teknologi</i>), during <i>Majlis Anugerah Semarak Sanjung</i> , UiTM Perlis Branch, 2022. |
| 2022 | Best Editing Award Higher Education Category (<i>Anugerah Penyuntingan Terbaik Kategori Pengajian Tinggi</i>), during <i>ANUGERAH BUKU NEGARA</i> , 2022. |
| 2021 | Publication Award - High Impact Journal (<i>Anugerah Penerbitan Jurnal Berimpak</i>), during <i>Anugerah Akademik Universiti (AAU)</i> , UiTM, 2021. |
| 2020 | Publication Award - Indexed Journal (<i>Anugerah Penerbitan Jurnal Berindeks</i>), during <i>Majlis Semarak Sanjung</i> , UiTM Perlis Branch, 2020. |
| 2020 | Research Award (<i>Anugerah Penyelidikan</i>), during <i>Majlis Semarak Sanjung</i> , UiTM Perlis Branch, 2020. |
| 2020 | Publication Award - High Impact Journal (<i>Anugerah Penerbitan Jurnal Berimpak</i>), during <i>Majlis Semarak Sanjung</i> , UiTM Perlis Branch, 2020. |

2020 Active Publication Award 2020: Science & Technology Category (*Anugerah Penerbitan Jurnal Berimpak*), during *Majlis Semarak Sanjung*, UiTM Perlis Branch, 2020.

RESEARCH GRANTS

- 2022 Integrated Fuzzy Logic and Spectral Indices For Rice Blast Disease Detection.
- Co-Researcher
 - Source of Fund: FRGS 2022
 - Value: RM 110,800
 - Ruj: 600-RMC/FRGS 5/3(121/2022)
 - Status: Active
- 2022 IR 4.0 Revolutionized Practices for Agronomic Benefits Of Harumanis (*Mangifera Indica* L.) Farming System.
- Co-Researcher
 - Source of Fund: Matching Grant, UiTM
 - Value: RM 40,000
 - Ruj: 100-RMC 5/3/SRP (077/2021)
 - Status: Active
- 2022 Malware Detection Model Using Deep Learning Classification Approach
- Co-Researcher
 - Source of Fund: Geran GPM, UiTM
 - Value: RM 20,000
 - Ruj: 600-RMC 5/3/GPM (058/2022)
 - Status: Active
- 2022 Integrated Decision Support Module For Zakat Financial Aid Amount Recommendation
- Co-Researcher
 - Source of Fund: Geran GiZA, UiTM Perlis
 - Value: RM 5,000
 - Ruj: 600-TNCPI 5/3/DDN (09) (013/2022)
 - Status: Active
- 2021 An Enhancement of Integrated Software Sustainability Evaluation Model Towards Service Oriented Architecture Paradigm
- Co-Researcher
 - Source of Fund: Geran GPM, UiTM
 - Value: RM 20,000
 - Ruj: 600-RMC/GPM LPHD 5/3 (152/2021)
 - Status: Active
- 2021 Interpretable Hierarchical Fuzzy System Framework in Decision Support Systems
- Principal Investigator
 - Source of Fund: FRGS, KPT
 - Value: RM 70,000
 - Ruj: FRGS/1/2021/ICT02/UITM/02/1
 - Status: Active
- 2021 Analysis of Machine Learning Techniques in Linguistic Steganalysis Domain
- Co-Researcher
 - Source of Fund: Geran MyRA, UiTM
 - Value: RM 20,000
 - Ruj: 600-RMC/GPM ST 5/3 (041/2021)
 - Status: Active
- 2021 Kajian Indeks Keselamatan Sempadan Negara (IKNS)
- Co-Researcher
 - Source of Fund: IKNS
 - Value: RM 200,000
 - Ruj: 100-TNCPI/GOV 16/6/2 (033/2021)
 - Status: Active

- 2021 IoT-Based Ghat Road Traffic Alerting System
- Co-Researcher
 - Source of Fund: *Geran Antarabangsa (Sepadan) Universitas Islam Riau (UIR), Indonesia*
 - Value: RM 10,000
 - Ruj: 100-TNCPI/INT 16/6/2 (027/2021)
 - Status: Active
- 2021 *Penerbitan Buku Hasil Daripada Penemuan Kajian Impak Kempen Pembudayaan Norma Baharu*
- Co-Researcher
 - Source of Fund: NADMA
 - Value: RM 84,000
 - Ruj : 100-TNCPI/GOV 16/6/2 (005/2021)
 - Status: Completed
- 2020 Modelling Interpretable Hierarchical Fuzzy System
- Principal Investigator
 - Source of Fund: YTRK, UiTM
 - Value: RM 30,000
 - Ruj : 600-RMC/YTR/5/3(018/2020)
 - Status: Active
- 2020 Formulation of Segmentation Model for Localizing and Identifying Defects in Mango Fruits
- Co-Researcher
 - Source of Fund: DPPD, UiTM Perlis Branch
 - Value: RM 5,000
 - Ruj : 600-TNCPI 5/3/DDN(09)(013/2020)
 - Status: Completed
- 2020 Harumanis Mango Leaf Disease Detection System Using Image Processing Technique
- Co-Researcher
 - Source of Fund: DPPD, UiTM Perlis Branch
 - Value: RM 5,000
 - Ruj : 600-TNCPI 5/3/DDN(09)(019/2020)
 - Status: Completed
- 2020 *Kajian Impak Kempen Pembudayaan Norma Baharu*
- Co-Researcher
 - Source of Fund: NADMA
 - Value: RM 300,000
 - Ruj :100-TNCPI/GOV 16/6/2 (022/2020)
 - Status: Completed
- 2014 Predictive model of student academic performance analysis through data mining of students' demographic and academic profiles
- Principal Investigator
 - Source of Fund: RAGS
 - Value: RM 80,000
 - Ruj :600-RMI/RAGS 5/3 (8/2014)
 - Status: Completed
- 2014 Decision Models For Flood Disaster Early Warning And Risk Reduction
- Co-Researcher
 - Source of Fund: LRGS
 - Value: RM 76,000
 - Ruj: 600-RMI/LRGS 5/3 (5/2014)
 - Status: Completed

- 2013 Digit Speech Against Noise Disturbance Based on Phonetic Recognition Model
- Co-Researcher
 - Source of Fund: Excellent Fund (UiTM)
 - Value: RM 7,000
 - Ruj:600-UiTMPs/PJIM&A/ST02/DKCP(02/2012)
 - Status: Completed

EDITORIAL DUTIES

Editorial Board:

- 2021 – Present Journal of Computational Innovation and Analytics (JCIA), UUM
- 2020 – Present Journal of Computing Research and Innovation, UiTM Perlis

Reviewer:

- 2022
- Journal of Computational Innovation and Analytics (JCIA), 2022.
 - IEEE WCCI 2022 : IEEE World Congress on Computational Intelligence
 - ICAN International Virtual Conference (IIVC 2022)
 - 2022 International Conference on Innovation And Intelligence For Informatics, Computing, And Technologies (3ICT 2022)
 - 9th International Conference on Science and Social Research (CSSR2022)
 - Jurnal Teknologi Informasi dan Pendidikan, Indonesia, 2022
 - Journal of Industrial and Production Engineering, 2022
- 2021
- Journal of Industrial and Production Engineering, 2021.
 - 6th International Conference and Workshops on Recent Advances and Innovations in Engineering - ICRAIE 2021
 - The 6th International Conference on Soft Computing in Data Science (SCDS) 2021.
 - The 5th Innovation and Analytic Conference And Exhibition (IACE) 2021, UUM.
 - International Journal of Computing and Digital Systems
 - Malaysian Technical Universities Conference on Engineering and Technology (MUCET), 2021.
 - Jurnal Teknologi Informasi dan Pendidikan, Universitas Negeri Padang, Indonesia
 - The 2nd International Conference on Artificial Intelligence and Data Sciences (Ai-DAS2021)
 - International Journal of Fuzzy System Applications (IJFSA), 2021
 - The 9th International Conference on Information and Communication Technology (ICoICT 2021)
 - Journal of Computing Research and Innovation, UiTM Perlis
- 2020
- The 7th International Conference on Science & Social Research (CSSR2020)
 - Journal of Computing Research and Innovation, UiTM Perlis
 - Journal of Information and Communication Technology (JICT), UUM
 - The IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) 2020
- 2019
- Jurnal Intelek, UiTM Cawangan Perlis
 - SET2019: 18th International Conference on Sustainable Energy Technologies
 - Colloquium Hort Tech 1st Series 2019

PROFESSIONAL MEMBERSHIP

- Member, IEEE-CIS Task Force on Explainable Fuzzy Systems.
- Member, IEEE
- Member, European Society for Fuzzy Logic and Technology (EUSFLAT)

Journals:

- 2023
- **Razak, T.R.** (2023), Expertise-based systematic guidelines for chiller retrofitting in healthcare facilities, accepted to be published in Journal of Building Engineering, Elsevier.
 - **Razak, T.R.** (2023), Python Scikit-Fuzzy: Developing a Fuzzy Expert System for Diabetes Diagnosis, accepted to be published in IAES International Journal of Artificial Intelligence (IJ-AI), Scopus.
 - Mohd Zaki, N. A., Mohd Asri, A., Mohd Zulkiflee, N. I., Abd Latif, Z., **Razak, T. R.**, & Suratman, M. N. (2023). Assessment of Forest Aboveground Biomass Estimation from SuperView-1 Satellite Image Using Machine Learning Approaches. In Concepts and Applications of Remote Sensing in Forestry (pp. 115-133). Singapore: Springer Nature Singapore.
- 2022
- Shaziayani, W.N., Ahmat, H., **Razak, T.R.**, Zainan Abidin, A.W., Warris, S.N., Asmat, A., Noor, N.M. & Ul-Saufie, A.Z. (2022). A Novel Hybrid Model Combining the Support Vector Machine (SVM) and Boosted Regression Trees (BRT) Technique in Predicting PM10 Concentration. Atmosphere, 13(12), 2046.
 - Jarimi, H., Al-Waeli, A. H. A., **Razak, T. R.**, Abu Bakar, M. N., Fazlizan, A., Ibrahim, A., & Sopian, K. (2022). Neural network modelling and performance estimation of dual-fluid photovoltaic thermal solar collectors in tropical climate conditions. Renewable Energy. <https://doi.org/https://doi.org/10.1016/j.renene.2022.07.133>
 - Ahmad, E. Z., Jarimi, H., & **Razak, T. R.** (2022). Artificial Neural Network Prediction Model of Dust Effect on Photovoltaic Performance for Residential Applications: Malaysia Case Study. Int. J. Renew. En. Dev, 11(2), 365-373.
 - Abd Latif, Z., Ruslan, S.Z., Mohd Zaki, N.A., Suratman, M.N., Omar, H., **Razak, T.R.**, Mohd Fauzi, S.S. & GM Gining, R.A., (2022). Optimization of power transmission line location at tropical forest area in avoiding endangered tree species. Arabian Journal of Geosciences, 15(9), pp.1-14.
 - Roslan, A., **Razak, T. R.**, Ismail, M. H., & Abd Halim, I. H. (2022). An E-Quiz System: A Pathway to Improve English Learning for Preschoolers in Rural Areas. Journal of Computing Research and Innovation, 7(2), 272-282.
 - Takiyuddin, M. A. M., Abd Halim, I. H., **Razak, T. R.**, & Fuzi, M. F. M. (2022). Remote Patient Monitoring System For Covid-19 Patient Using Wi-Fi-Based Pulse Oximeter Reading Sensor. Journal of Computing Research and Innovation, 7(2), 101-110.

- Maskat, R., Musa, R., Ardi, N., Deraman, N.A., Ahmad, Z., Wang, Q., Fauzi, S.S.M., **Razak, T.R.** & Gining, R.A.J., (2021). Utilising Target Adjacency Information for Multi-target Prediction. *Indonesian Journal of Electrical Engineering and Informatics (IJEI)*, 9(4).
- Dahalan, A. J. **Razak, T. R.**, Ismail, M. H., Fauzi, S. S. M. & Gining, R. A. J., (2021). Heart Rate Events Classification Via Explainable Fuzzy Logic Systems. *IAES International Journal of Artificial Intelligence (IJ-AI)*, 10(4).
- Roslan, N. N., Jamaluddin, M. N. F., Ibrahim, A. F., Mohd Fauzi, S. S., **Razak, T. R.**, & JM Gining, R. A. (2021). iNutritionApp: Mobile Application for Nutrition Monitoring using FatSecret API. *Journal of Computing Research and Innovation*, 6(2), 119–127.
- **Razak, T. R.**, Fauzi, S. S. M., Gining, R. A. J., Ismail, M. H., & Maskat, R. (2021). Hierarchical Fuzzy Systems: Interpretability and Complexity. *Indonesian Journal of Electrical Engineering and Informatics (IJEI)*, 9(2). <https://doi.org/10.52549/IJEI.V9I2.2813>
- **Razak, T. R.**, Ismail, M. H., Fauzi, S. S. M., Gining, R. A. J., & Maskat, R. (2021). A Framework to Shape the Recommender System Features Based on Participatory Design and Artificial Intelligence Approaches. *IAES International Journal of Artificial Intelligence (IJ-AI)*, 10(3).
- **Razak, T. R.**, Ismail, M. H., Fauzi, S. S. M., Jamaludin, M. N. F., & Gining, R. A. J. (2021). Assessing Student Programming Skills and Area of Interests in the Final Year Project. *International Journal of Computing and Digital Systems*, 10(1), 255–264.
- R.A. JM Gining, S.S.M. Fauzi, **T.R. Razak**, M.N.F. Jamaluddin, M.N.M. Fuad, N.A. Zaki, R. Maskat. (2021). "IoT Based Disabled Parking System (DiParkSys) v2.0 Arduino Uno," *J. Intelek*, vol. 16, no. 1, pp. 166–174, Jan. 2021, doi: 10.24191/ji.v16i1.377.
- Ray Adderley, J. G., Shukor Sanim, M. F., N.M., Y., **Tajul Rosli, R.**, Mohammad Hafiz, I., Nurul Ain, M. Z., & Fadhilnor, A. (2021). Harumanis mango leaf disease recognition system using image processing technique. *Indonesian Journal of Electrical Engineering and Computer Science*, 23(1).
- Shah, A. A. I., Fauzi, S. S. M., Gining, R. A. J. M., **Razak, T. R.**, Jamaluddin, M. N. F., & Maskat, R. (2021). A review of iot-based smart waste level monitoring system for smart cities. *Indonesian Journal of Electrical Engineering and Computer Science*, 21(1).
- **Razak, T. R.**, Garibaldi, J. M., Wagner, C., Pourabdollah, A., & Soria, D. (2021). Towards a Framework for Capturing Interpretability of Hierarchical Fuzzy Systems – A Participatory Design Approach. *IEEE Transactions on Fuzzy Systems*, 29(5), 1160-1172, DOI:10.1109/TFUZZ.2020.2969901.

- Ismail, M. H., & **Razak, T. R.** (2020). Predicting the Kijang Emas Bullion Price using LSTM Networks. *Journal of Entrepreneurship and Business*, 8(2), 11-18. <https://doi.org/10.17687/JEB.0802.02>
- Rahizad, M. A. A., **Razak, T. R.**, Fauzi, S. S. M., Gining, R. A. J., & Ismail, M. H. (2020). Designing an IoT-based System to Detect the Out-of-pitch Balls in a Football Match. *Journal of Computing Research and Innovation*, 5(3), 34-42.
- Nazri, N. M. A., Fauzi, S. S. M., Gining, R. A. J. M., **Razak, T. R.**, & Jamaluddin, M. N. F. (2020). Smart Cane for Visually Impaired with Obstacle, Water Detection and GPS. *International Journal of Computing and Digital Systems*.
- R.A.JM.Gining, S.S.M.Fauzi, **T.R.Razak**, M.N.F.Jamaluddin & N.A.A.Zahari. (2020). InnoJudS: Web-Based Innovation Judging System. *International Journal of Advanced Trends in Computer Science and Engineering (IJATCSE)*, 9(3).

- 2019
- Gining, R. A. J., Fauzi, S. S. M., Jamaluddin, M. N. F., Marizalee, M. A., **Razak, T. R.**, & Sharip, A. A. (2019). The Design and Development of Mobile Application for Parking Reservation System. *Journal of Computing Research and Innovation*, 4(2), 49-59.
 - Ismail, M. H., **Razak, T. R.**, & Halim, I. H. A. (2019). An Implementation of Internet-connected Indoor Dust Bin Waste Level Monitoring System for Office Use. *Journal of Computing Research and Innovation*, 4(2), 42-48.
 - Halim, I. H. A., Abu, N. M. I., Hassan, **Razak, T. R.**, Fikri, M. N., & Jamaluddin, M. H. I. (2019). Reducing Honeypot Log Storage Capacity Consumption–Cron Job with Perl-Script Approach. *Journal of Computing Research & Innovation (JCRINN)* Vol, 4(1).
 - **Razak, T. R.**, Halim, I. H. A., Jamaluddin, M. N. F., Ismail, M. H., Fauzi, S. S. M., & Gining, R. A. J. (2019). Towards Designing A Hierarchical Fuzzy System for Early Diagnosis of Heart Disease. *Journal of Computing Research and Innovation*, 4(2), 31-41
 - **Razak, T. R.**, Halim, I. H. A., Jamaludin, M. N. F., Ismail, M. H., & Fauzi, S. S. M. (2019). An Exploratory Study of Hierarchical Fuzzy Systems Approach in A Recommendation System. *Jurnal Intelek*, 14(2), 174–186.
- 2014
- Othman, M., Bakar, M. N. A., Ahmad, K. A., & **Razak, T. R.** (2014). Fuzzy ripening mango index using RGB colour sensor model. *Researchers World*, 5(2), 1.
- 2012
- **Razak, T. R.**, Mohammed, A. H., Noor, N. H. M., & Hashim, M. A. (2012). Automated Data Integration, Cleaning and Analysis Using Data Mining and SPSS Tool for Technical School in Malaysia. *International Journal of Computer Science and Security (IJCSS)*, 6(4), 211.
 - **Razak, T. R.** (2012) An Expert System Approach for determine the stage of UiTM Perlis Palapes Cadet Performance and Ranking Selection. *Journal of Computer Science & Computational Mathematics*, 2 (12), 71-74

Proceeding Paper:

- 2023
- Aziz, N. H., Narashid, R. H., **Razak, T. R.**, Anshah, S. A., Talib, N., Abd Latif, Z., ... & Zainuddin, K. (2023, March). Detection of Bacterial Leaf Blight Disease Using RGB-Based Vegetation Indices and Fuzzy Logic. In 2023 19th IEEE International Colloquium on Signal Processing & Its Applications (CSPA) (pp. 134-139). IEEE.
- 2022
- **Razak, T. R.**, Anuar, N. H., Garibaldi, J. M., & Wagner, C. (2022, July). Modelling Hierarchical Fuzzy Systems for Mango Grading via FuzzyR Toolkit. In 2022 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) (pp. 1-8). IEEE.
 - Ismail, M. H., **Razak, T. R.**, Gining, R. A. J., & Fauzi, S. S. M. (2022, September). Simulating Bruise and Defects on Mango images using Image-to-Image Translation Generative Adversarial Networks. In 2022 3rd International Conference on Artificial Intelligence and Data Sciences (AiDAS) (pp. 110-114). IEEE.
 - Ismail, M. H. B., Wagimin, M. N., & **Razak, T. R.** (2022, September). Estimating Mango Mass from RGB Image with Convolutional Neural Network. In 2022 3rd International Conference on Artificial Intelligence and Data Sciences (AiDAS) (pp. 105-110). IEEE.
- 2021
- **Razak, T. R.**, Chen, C., Garibaldi, J. M., & Wagner, C. (2021). Designing the Hierarchical Fuzzy Systems Via *FuzzyR* Toolbox. In 2021 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) (pp. 1-6). IEEE.
 - **Razak, T. R.**, Faizi, N. A. K., Ismail, M. H., Fauzi, S. S. M., & Gining, R. J. (2021, December). Towards Capturing Mango Grading From Human Experts-A Comprehensive User Study. In 2021 6th IEEE International Conference on Recent Advances and Innovations in Engineering (ICRAIE) (Vol. 6, pp. 1-6). IEEE.
 - M.H. Ismail, **T.R. Razak**, R. Gining, S.S.M. Fauzi, & A. Abdul-Aziz (2021), Predicting vehicle parking space availability using multilayer perceptron neural network. *IOP Conference Series: Materials Science and Engineering* 1176 (1).

- 2020
- **Razak, T. R.**, Garibaldi, J. M., & Wagner, C. (2020). An Improved Complexity Measure in Hierarchical Fuzzy Systems. In 2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) (pp. 1-8). IEEE.
 - C. Chen, **Razak, T. R.**, Garibaldi, J. M. (2020). FuzzyR: An Extended Fuzzy Logic Toolbox for the R Programming Language. In 2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) (pp. 1-8). IEEE.
 - A.Azuan, R.A.J.M.Gining, S.S.M.Fauzi, **T.R.Razak**, M.N.F.Jamaluddin, (2020) An Identification of Software Requirement for Web Based Judging System. Journal of Physics: Conference Series. DOI:10.1088/1757-899X/767/1/012033.
 - Jamaluddin, M.N.F., Malik, S.N.A., Fauzi,S.S.M., **Razak, T.R.**, Halim, I.H.A, Mohammed, A.H., Gining. R.A.JM., (2020) An Application of Presumptive Diagnosis for Urinary Tract Infection via kNN Algorithm Approach. In: Alias N., Yusof R. (eds) Charting the Sustainable Future of ASEAN in Science and Technology. Springer, Singapore
 - Ismail, M. H., **Razak, T. R.**, & Bulot, N., (2020). Forecasting Kijang Emas Gold Bullion Price from Time-Series Data with LSTM Networks.
- 2019
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- 2011
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INNOVATION / INVENTION / DESIGN

- 2022
- GKreso Glavac Republic of Croatia Special Award at MTE2022 COVID-19 International Innovation Awards -*MASK: INTEGRATED FACE-MASK CONFORMITY AND THERMAL BODY SCANNING DEVICE FOR SMART COVID-19 PREVENTION*
 - Gold Award in the GEOMATIC RESEARCH INNOVATION COMPETITION 2022 (GRIC 2022)-*Detection Of Bacteria Leaf Blight Disease Using RGB-Based Vegetation Indices and Image Recognition*
 - Gold Award in the 11th Symposium on Innovation and Creativity (SIC 2022) -*An E-Quiz System: A Pathway to Improve English Learning for Preschoolers In Rural Areas*
 - Gold Award in the 11th Symposium on Innovation and Creativity (SIC 2022) -*An Impactability Design-User Acceptance for Software Sustainability Assessment Toolkit Toward Green Computing (SSA-GC)*
- 2021
- Gold Award in 4th International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity 2021 (IMIT SIC 2021) - *IoT-ML: Water Quality Monitoring System*
 - Silver Award in 4th International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity 2021 (IMIT SIC 2021) -*Python-Based: Self-Diagnosis Of Diabetes Disease Using Fuzzy Expert Systems*
 - Bronze Award in Malaysia Technology Expo 2020 - COVID-19 International Innovation Awards II - *i-Mask: Integrated Face-Mask Conformity and Thermal Body Scanning Device For Smart COVID-19 Prevention*
 - Silver Award in 5th International Innovation, Design and Articulation (i-DeA 2020) - *Ghat Road Smart Vehicle Detection with Alerting System Via Smartphone (IOT)*

2020	• Gold Award in The 1st International Conference of Science and Technology towards New Normal Era 2020, Universitas Airlangga -<i>Harumanis Mango Leaf Disease Detection System using Image Processing Technique</i> • Gold Award in The 1st International Conference of Science and Technology towards New Normal Era 2020, Universitas Airlangga -<i>Web Based Innovation Competition Judging System</i> • Silver Award in Malaysia Technology Expo 2020 - Special Edition -<i>The Intelligent Face Mask Detection and Body Temperature Imaging System</i> • Bronze Award in Malaysia Technology Expo 2020 - Special Edition -<i>COVID-19 Tracker: The Mobile Application Tracking System for Covid-19 High-Risk Individuals Integrated Extensive Data Collection</i> • Bronze Award in Malaysia Technology Expo 2020 - Special Edition -<i>COVID-19 Lockdowns Pollution Emission Monitoring (COVPOLL)</i> • Silver Award in The 9th Seminar on Innovation and Creativity 2020 -<i>Multi-Moal Sensor Device for Avoiding Accidental Child Abandonment in Vehicle</i> • Silver Award in The 9th Seminar on Innovation and Creativity 2020 - <i>The Intelligent Face Mask Detection and Body Thermal Imaging System</i> • Bronze Award in The 9th Seminar on Innovation and Creativity 2020 - <i>Ball Out Detection System</i> • Gold Award in The 8th Seminar on Innovation and Creativity: Covid-19 Special Edition - <i>Mobile Application Tracking System for COVID-19 High Risk Individual</i> • Gold Award in The 8th Seminar on Innovation and Creativity: Covid-19 Special Edition - <i>The Intelligent Face Mask Detection and Body Temperature Imaging System</i> • Gold Award in The 8th Seminar on Innovation and Creativity: Covid-19 Special Edition - <i>COVID-19 Lockdowns Pollution Impacted Emission</i> • Silver Award in eREKA, Unimap - <i>IoT Hydroponic Wick Monitoring System</i> • Silver Award in eREKA, Unimap -<i>IoT-Based Ghat Road Traffic Alerting System</i>
2019	• Silver Award in International Innovation Invention Creation Exhibition - <i>Doorbell Image Capturing with Notification via SMS and Email</i>
2014	• Silver Award in International Invention, Innovation and Design Competition and Conference (ICON) 2014 – <i>i-Home Financing Calculator</i> • Silver Award in Conference, Competition and Exhibition (CCE) 2014 - <i>i-Home Financing Calculator</i> • Bronze Award in National Innovation And Invention Competition Through Exhibition 2014 (iCompEx'14) – <i>Job Recommendation System For Uitm Perlis Students</i> • Silver Award in Competition & Exhibition Invention, Innovation & Design Exposition 2014 (iideX 2014) – <i>Intelligent Career Recommendation System (i-CareerR)</i>
2013	• Bronze Award in Invention, Innovation & Design Expo 2013 (iindex2013) - <i>ARPerlis-Integrating Augmented Reality In Tourism Application</i> • Bronze Award in Invention, Innovation & Design Expo 2013 (iindex2013) - <i>i-ManGoes</i> • Silver Award in International Innovation, Design and Articulation (i-IDeA2013) – <i>Dengue Notification System</i> • Gold Award in International Innovation, Design and Articulation (i-IDeA2013) – <i>i-Home Financing Calculator</i> • Silver Award in Research, Invention, Innovation & Design (RIID) 2013 – <i>i-Home Financing Calculator</i> • Bronze Award in National Invention, Innovation and Design Competition 2013 (NIID 2013) – <i>Efficient Class Attendance System (eCAS)</i>
2012	• Silver Award in Invention, Innovation & Design UiTM Perlis (IID 2012) – <i>Bird Flu Diagnosis Using Fuzzy Expert</i> • Silver Award in Invention, Innovation & Design UiTM Perlis (IID 2012) – <i>i-ManGoes</i> • Bronze Award in Invention, Innovation & Design UiTM Perlis (IID 2012) – <i>Multimedia File Analyzer</i> • Bronze Award in Invention, Innovation & Design UiTM Perlis (IID 2012) – <i>Decision-Tree Based Model for Predicting Financially Distressed Company</i> • Silver Award in Innovation Platform (IP2012) – <i>i-ManGoes</i>

**INVITED TALK / JURY /
GUEST LECTURE /
PRESENTATION**

2022

- Paper presented in IEEE World Congress on Computational Intelligence (WCCI 2022), Padua, Italy - Remote Presentation on 23 July 2022. Organized by IEEE Computational Intelligence Society.
- An invited speaker in the 1st International Academic Research Conference (iAReCo 2022) on 29 July 2022. Organized by PJIM&A, UiTM Perlis. Webex.
- An invited speaker in the Seminar on Research Story » XAI in Fuzzy Systems: What, Why & How ? on 12 April, 2022. Organized by UUM. Zoom.
- A Jury for Competition of UINSA International Young Scientist Competition (UIYSC), on 2 July, 2022. Organized by UNIVERSITAS ISLAM NEGERI SUNAN AMPEL SURABAYA, INDONESIA. – Zoom
- An invited speaker in the FYP TALK SERIES: HOW TO CREATE A NEW RESEARCH IDEA on 4 November, 2022. Organized by FSKM, UiTM Perlis. Webex.
- Guest Lecture – Artificial Neural Network on 28 September 2022. Organized by Hubei University of Technology, China.
- An invited speaker in the Handholding Series 2: Let's Publish & Flourish on 26 September, 2022. Organized by PJIM&A, UiTM Perlis.
- An invited speaker in the INTERNATIONAL WEBINAR: MACHINE INTELLIGENCE IN MANGO FRUIT RESEARCH - A SHARING SESSION on 11 October, 2022. Organized by PJIM&A, UiTM Perlis.

2021

- Paper presented in International Conference on Fuzzy Systems (FUZZ IEEE) 2021, Luxembourg - Virtual Conference on 13 July 2021. Organized by IEEE Computational Intelligence Society.
- Invited as an 'Expert Panel' for evaluating three finalists in FUZZ IEEE Competition on Explainable Energy Prediction. 11 July 2021. Organised by IEEE CIS Task Force on Explainable Fuzzy Systems.
- Guest Lecture on Artificial Neural Network for Postgraduate Students in SERI, UKM. 23 of June 2021. Organized by SERI, UKM.
- An invited speaker in the Seminar on Academic and Research Excellence on 30 March 2021. Organized by PJIM&A, UiTM Perlis. Google Meet.
- Facilitator in Seminar of Optimizing FYP Into Journal Publications. Organized by FSKM, UiTM Perlis. 10, 23, 24 March 2021. Google Meet.

2020

- A presentation in research collaboration meeting at FAMA, Perlis. 29 December 2020. Organized by ACT Research Group and FAMA, Perlis.
- Invited as an Evaluation Panel for application of *Dana Pembudayaan Penyelidikan Dalaman (DPPD)* 2020. 25 November 2020. Organized by PJIM&A, UiTM Perlis Branch.
- A keynote speaker in the 2nd Joint International Webinar [Artificial Intelligence and Machine Learning Series] on 28 September 2020. Organized by ACT Research Group, UiTM Perlis in collaboration with Telkom University, Indonesia.
- A presentation in research collaboration meeting at MARDI, Sintok, Kedah. 8 September 2020. Organized by ACT Research Group and MARDI, Kedah.
- Paper presented in IEEE World Congress on Computational Intelligence (IEEE WCCI) 2020, Glasgow (UK) - Virtual Conference on 19 July 2020. Organized by IEEE Computational Intelligence Society.
- An invited speaker in Post-Graduates Open Day, UiTM Perlis Branch - Virtual Webinar on 10 July 2020. Google Meet.

2019

- Paper presented in the 1st International Symposium on Engineering and Technology 2019 (ISETech 2019). 23 December 2019. Organized by UniMAP.
- Paper presented in International Conference on Fuzzy Systems (FUZZ IEEE) 2019, New Orleans, USA. 23 June 2019. Organized by IEEE Computational Intelligence Society.

- 2021 Parallel HFS - IRIS Classification Problem
- This code demonstrates an approach to evaluate the fuzzy inference system (FIS) of a Parallel Hierarchical Fuzzy System (HFS). Also, an example of the Iris classification problem is used in this code to represent the parallel HFS example.
 - DOI: 10.24433/CO.0561629.v3
 - Available at: <https://doi.org/10.24433/CO.0561629.v3>
- 2020 *FuzzyR* - Fuzzy Logic Toolkit for R
- Design and simulate fuzzy logic systems using Type 1 Fuzzy Logic. This toolkit includes with graphical user interface (GUI) and an adaptive neuro-fuzzy inference system (ANFIS). This toolkit is a continuation from the previous package ('FuzzyToolkitUoN').
 - Available at: <https://cran.r-project.org/web/packages/FuzzyR/index.html>
- 2020 *H* Framework
- A general framework to measure the interpretability of Hierarchical Fuzzy Systems
 - DOI: 10.24433/CO.3556006.v1
 - Available at: <https://codeocean.com/capsule/1671080/tree/v1>