CURRICULUM VITAE

Noramalina Binti Abdullah
No. 80, Jalan Indah 2, Taman Desa Indah, 34200 Parit Buntar,
Perak , Malaysia
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Personal Profile

Date of birth/ Age: 15 December 1979/ 44 years old
Gender: Female
Nationality: Malaysian
Marital status: Married
Current position: Senior Lecturer
Research interest: Power System, Neuro-fuzzy System, Medical Imaging

Education

Year	Level and Institutions	Achievements
May 1999 – May 2002	Bachelor's Degree (Quality Control and Instrumentation), University Science Malaysia (USM)	Final year project title: Implementation of Quality Circle Management in Firm Sector
November 2007 – November 2009	Master's Degree of Electrical Engineering (Microelectronic and Automation Control), University Technology Malaysia (UTM)	Thesis title: FPGA Implementation on MRI Brain Classification Using Support Vector Machinehttp://eprints.utm.my/12307/
Nov 2011 – December 2015	PhD in Electrical Engineering - Chulalongkorn University, Bangkok, Thailand	Thesis title: Fault Detection and Identification With Adaptive Neuro-Fuzzy Inference System http://cuir.car.chula.ac.th/handle/123456789/49855

Working Experience

Year	Position and Institutions	Scope of works
July 2018 – recent	Senior Lecturer (USM)	**Teaching:** EEU 104- Electrical Technology EUM 113- Engineering Calculus EEE 125- Basic Circuit Laboratory EEK 241- Electrical Power Technology **Final Year Project:** 1. The Causes and Effects of The Harmonic in Power Suystem Transmission Line (2018/19) 2. Automatic Circuit Breaker (ACB) for Low Voltage Substation Distribution (2018/19) 3. Web-based Photovoltaic Recording System (2018/19) 4. Uninterruptible Power Supply for 48V Base Tranceiver Station (2018/19) 5. Identifying of Fault Occurrence and Classification at Power Transmission Line (2019/2020) 6. Study of the Mechanism for Wireless Charging Robots (2019/2020) 7. Study of Battery Characteristics for Wireless Charging System (2019/2020) 8. POWER CONSUMPTION OBSERVATION AT HOME WITH IOT APPLICATION (2020/2021) 9. Development of a prototype for wireless charging system (2020/2021) 10. Wireless Power Transfer For Electric Vehicle Application (2020/2021) 11. Automatic Fault Detection & Fault Location At Power Transmission Line (2020/2021) 12. STUDY OF AGROPHOTOVOLTAIC FOR BENEFIT OF SMART FARMING (2021/2022) 13. Detection of Fault Location Using Internet of Things (IoT) (2021/2022) 14. Study of Digital Twin & Application in Power System (2021/2022) 15. Performance of Wireless Power Transfer (2021/2022) 16. Solar-Powered Water Quality Monitoring System Using Internet of Things (IoT) (2022/2023) 17. Performance of Lithium-Ion Battery in Electric Vehicles (EV) (2022/2023) 18. Development of Real-Time Energy Visualization and Information Dashboard (2022/2023)

		19. Internet of Things-Based Solar TrackerSystem (2022/2023)
		20. IIOT and Cloud-based controller for optimization of smart manufacturing (2022/2023)
		21. Cloud based Dashboard Proposition for Production Monitoring System in Manufacturing Industry (2022/2023)
		Capstone Project:
		1. Intelligent Self-defence Device (InSeD) – Won Gold medal in International Engineering and Science Innovation Exhibition 2019
		2. Chilli Farm Monitoring System Using IoT – Won First Runner up in ENGINOVATE 2020
		3. Social Distancing Tag – 2021
		4. Safety Wheel Sensory System – 2022
		5. Smart Garbage Monitoring System – 2023
		Master Project:
		1. Development of Attendance and Temperature Monitoring System Using Internet of Things with Wireless Power Transfer Application
		2. Vehicle Safety Sensory
		Philosophy of Degree (PhD):
		1. Design And Development of Hybrid Filter In Application of Three Phase Four Wire System
		2. Extraction and Diagnosis of Rotating Machinery Fault Features Based on Deep Learning.
November 2002 – June 2018	Senior Research Officer, University Science Malaysia (USM)	1. Assist the laboratory session pertinent to:
		- Basic Circuit
		- Mechatronics Design
		- Mechatronics
		- Analogue Electronics
		- Introduction of Field Programming Gate Array (FPGA)
		2. Handle the tutorial class pertinent to:
		- Electronic Device
		- Digital Signal and Systems
		- Circuit Theory
		- Electrical Technology
		- Manufacturing and Management Technology

		- Power System
		3. Conduct respective research as principalinvestigator and co-researcher
March2001 – May 2001	Internship/ Industrial training at B Braun Medical Industries Sdn. Bhd., Penang	Quality assurance, Department of Research and Development

Publications

Year	Title
2023	1. Noramalina Binti Abdullah, Khairul Anuar Bin Mohd Nor and Mohamed Salem, ENHANCEMENT OF POWER QUALITY IN 3-PHASE ELECTRICAL SYSTEMS USING AN ACTIVE-PASSIVE HYBRID HARMONIC FILTER, RESULTS IN ENGINEERING, 2023 (Under Review) 2. Noramalina Binti Abdullah, Qawiem Naif Bin Qisti and Khairul Azman Ahmad, Monitoring Solar Tracking System Using Internet of Things Technology, A JOURNAL OF ENGINEERING (UTP Journal), 2023 3. Zuraini Binti Dahari, Roslina Binti Hussin. Noramalina Binti Abdullah, Intan Sorfina Binti Zainal Abidin, Mohamad Nazir Bin Abdullah, NAVIGATING THE DIGITAL FRONTIER: ENRICHING TRADITIONAL PEDAGOGY THROUGH VIRTUAL ENRICHMENT PROGRAMS , INTERNATIONAL PUTRA INNOCREATIVE CARNIVAL IN TEACHING AND LEARNING (I-PICTL) 2023 4. Zuraini Binti Dahari, Roslina Binti Hussin. Noramalina Binti Abdullah and Azniza Abd Aziz, Empowering Malaysia's Youth: Assessing the Impact of STEM Education, THE 11TH INTERNATIONAL CONFERENCE ON ENTREPRENEURSHIP, BUSINESS AND TECHNOLOGY (INCEBT 2023
2022	1. Noramalina Abdullah and Ouyang Chengdu, Wassertein Generative Adversarial Networks with Meta Learning for Fault Diagnosis of Few-Shot Bearing, The 4th IEEE International Conference on Artificial Intelligence in Engineering and Technology, 13-15 September 2021 2. Noramalina Abdullah and Khairul Anuar Mohd Noor, Dominant Harmonic Current Reduction Using Passive Power Filter, 2022 IEEE International Conference on Power and Energy, (PECon2022)

2021	3. Noramalina Abdullah and Muhammad Syarifuddin, *Effect of Harmonics Current on the Performance of Current Transformers*, The 11th International Virtual Conference on Robotics, Vision, signal Processing and Power Applications (RoViSP2021), 5-6 April 2021
	4. Noramalina Abdullah and Sarah Madihah Mohd Shazali, *Internet of Things with RFID Based Microcontroller for Monitoring System*, The 11th International Virtual Conference on Robotics, Vision, signal Processing and Power Applications (RoViSP2021), 5-6 April 2021
	5. Noramalina Abdullah and Sarah Madihah Mohd Shazali, *Development of Attendance and Temperature Monitoring System Using IoT with Wireless Power Transfer Application*, Journal of Science and Technology PERTANIKA, queued for publication in JST Vol. 30 (1) Jan. 2022 – **Accepted**
	6. Khairul Azman Ahmad, Noramalina Abdullah et. Al, *Characterization of Polyvinylidene difluoride-based Energy Harvesting with IDE Circuit Flexible Cantilever Beam,* Journal of Science and Technology PERTANIKA, queued for publication in JST Vol. 30 (1) Jan. 2022 – **Accepted**
	7. Noramalina Abdullah et. Al*, Impact of COVID-19 Pandemic in Malaysia: A Critical Survey,*
	8. Journal of Social Science and Humanities PERTANIKA – **Accepted**
	9. A.A. Mohamad Yusoff, K.A. Ahmad, S.N. Sulaiman, Z. Hussain, N. Abdullah, *Air Cavity-Based Vibrational Piezoelectric Energy Harvesters*, ISSN 2074-272X. Electrical Engineering & Electromechanics, 2021, no. 5 39 © UDC 681.586 https://doi.org/10.20998/2074-272X.2021.5.06
	10. Noramalina Abdullah and Khairul Anuar Mohd Nor, *Comparative Study for the Performance of Harmonic Passive Filters in Electrical Power Distribution System,* Malaysian Society of Automatic Control Engineers (MACE) Technical Journal
	11. Noramalina Abdullah and Ahmad Kamal, *Development of Photovoltaic Data Observing With IoT Interface*, Journal of Engineering Science – **Accepted**
	12. Khairul Anuar Mohd Nor and Noramalina Abdullah, *Harmonic Current Mitigation using Hybrid Power Filter,* Electrical and Electronic Postgraduate Colloquium 2021- **Accepted**

2020	1. Muhammad Hafiz Mohd Rohaizad, Syafrudin Masri and Noramalina Abdullah, *The Effect of Current Harmonic on Overcurrent Relay,* Journal of Engineering Science, Vol. 16(1), 65–74, 2020,https://doi.org/10.21315/jes2020.16.1.5.
	2. Khairul Azman Ahmad, Noramalina Abdullah et. Al, *Classification of Startfruit Ripeness using Neural Network Technique, 10th International Conference on Control System, Computing and Engineering (ICCSCE), Virtual Presentation, August 2020.*
	3. Amalina Abdullah, Husna Yusuff, Loh Kah Leong, Muhammad Fahimi, Sheril Aisha and Ezril Aidil, *Intelligent Self-Defence Device,* The European Proceedings of Social and Behavioral Sciences, ISSN 2357- 1330, DOI: 10.15405/epsbs.2020.03.03.80 \
	4. Noramalina Abdullah and Ahmad Syahir Bin Saharuddin, *Uninterruptible Power Supply for 48V Base Transeiver Station (BTS),* 3rd Multidisciplinary Conference on Education and Computer Science (MCECS), 21-22 February 2020, Penang Malaysia
	5. Khairul Azman, Noramalina Abdullah et. Al, *Characterization of a Flexible Based PI/ PVDF Sensing for Pressure Sensor,* 1st International Conference on Information Technology, Advanced Mechanical and Electrical Engineering (ICITAMEE), October 2020
	6. Khairul Azman, Noramalina Abdullah et. Al, *A Cavity Structure based Flexible Piezoelectric for Low-Frequency Vibration Energy Harvesting, Advances in Science, Technology and Engineering Systems Journal Vol. 5, No. 5, 1042-1049 (2020) ,* DOI: 10.25046/aj0505128
	7. Khairul Azman, Noramalina Abdullah et. Al, *Characterization of Planar Based Electrode Piezoelectric Micromachined Ultrasonic Transducer for Underwater Sensor Application using FEA Simulation,* Applications of Modelling and Simulation-Open Access Journal, Volume 4 (2020)
	8. Noramalina Abdullah et. Al, Towards Smart Agriculture Monitoring Using Fuzzy System , *IEEE Access (Volume 9),* DOI: 10.1109/ACCESS.2020.3041597
2019	1. Amalina Abdullah, Husna Yusuff, Loh Kah Leong, Muhammad Fahimi, Sheril Aisha and Ezril Aidil, *Intelligent Self-Defence Device,* 8th International Conference on Multidisciplinary Research (iCMR 2019), Penang, 21-22 August 2019
	2. Paper (1) was extended for publication in The European Procedings of Social and Behavioral Sciences, ISSN 2357- 1330
	3. Amalina Abdullah, *The Performance Of Clustering Technique And Artificial Intelligence In Power System Fault Investigation,* International Journal of Advance Computational Engineering and Networking (IJACEN), 2320-2106, ISSN(e): 2321-2063 Volume-7, Issue-3, Mar.2019
	4. Noramalina Abdullah and Norazizah Norhafazid, *Automatic Circuit breaker (ACB) for Low Voltage Substation Distribution System,* Journal of Engineering Science, Vol. 15, No. 2, 2019
	5. Khairul Azman Ahmad, Noramalina Abdullah et. Al , *Design and Characterization of An Interdigitated Electrode PVDF based Energy Harvesting Device,* submitted to 9th International Conference on Computer Science, Control and Engineering, 30-31 November 2019, Park Royal, Penang, Malaysia
	6. Sarah Madihaah Mohd Sazali, Noramalina Abdullah, Khairul Anuar Mohamad, *Radio Frequency Identification System using Microcontroller for Student Monitoring,* Electric and Electronic Postgraduate Colloqium (EEPC), December 2019
	7. Noramalina Abdullah, *Artificial Intelligent Application for Power System Protection*, MACE Technical Journal (MTJ) Vol.1 (01), December 2019, pp 1-7
2018	1. Noramalina Abdullah, Channarong Banmongkol, Naebboon Hoonchareong, Hidaka

	Kunihiko, *Fault Identification using Combined Adaptive Neuro-Fuzzy Inference System and Gustafson–Kessel Algorithm*, Journal of Engineering Research, 2018; March issue, IF 0.4 2. Paper presented at 2017 IEEE 15th Student Conference on Research and Development (SCOReD) has been posted to the IEEE Xplore digital library. http://ieeexplore.ieee.org/document/8305365/ 3. Amalina Abdullah, *The Performance of Clustering Technique and Aretificial Intelligence in Power System Fault Investigation*, International Conference on Electrical and Electronics Engineering (ICEEE), Kuala Lumpur, 18-19th December 2018
2017	1. Amalina Abdullah, Channarong Banmongkol, Naebboon Hoonchareon and Kunihiko Hidaka, *A Study on the Gustafson-Kessel Clustering Algorithm in Power System Fault Identification*, Journal of Electrical Engineering and Technology, 2017; 12(5): 1798-1804, IF 0.679 2. Amalina Abdullah et al, *Design and Development of D33 Mode Piezoelectric Acoustic Transducer Array using PVDF for Underwater Application*, 2017 IEEE International Conference on Control System, Computing and Engineering, 24-26 December 2017, Penang. 3. Amalina Abdullah, *Fault Identification Using A New Scheme of Hybrid ANFIS, IEEE Student Conference on Research and Development*, 13-14 December 2017, Putrajaya. 4. Amalina Abdullah et al, *D33 Mode Based Piezoelectric Micromachined Ultrasonic Transducers*, IEEE Student Conference on Research and Development, 13-14 December 2017, Putrajaya.
2016	1. Amalina Abdullah, Channarong Banmongkol, Naebboon Hoonchareon and Kunihiko Hidaka, *Implementation of Adaptive Neuro Fuzzy Inference System in Fault Location Estimation*, 9th International Conference on Robotic, Vision, Signal Processing and Power Applications, February 2016, Penang 2. Lect. Notes Electrical Eng, Vol 398, Haidi Ibrahim et al: (9th International Conference on Robotic, Vision, Signal Processing and Power Applications, 978-981-10-1719-3, 339721_1_En (80)
2015	1. Completed and submitted Phd Thesis
2014	1. Amalina Abdullah, Channarong Banmongkol and Naebboon Hoonchareon, 2014, *Improvement of Fault Identification and Localization Using Gustafson-Kessel Algorithm In Adaptive Neuro-Fuzzy Inference System*, Australian Journal of Basic and Applied Sciences, 8(5) Special 2014, Pages: 455-461, ISSN:1991-8178 AENSI Publisher, SCOPUS indexed (selected from paper submitted to ICBST'14) http://www.ajbasweb.com/old/ajbas/2014/Special%202/455-461.pdf 2. *Improvement of Fault Identification and Localization Using Gustafson-Kessel Algorithm In AdaptiveNeuro-Fuzzy Inference System*, *International Conference of Business, Science and Technology* (ICBST 2014), 25-26 April 2014, Hatyai, Thailand
2013	1. Amalina Abdullah, Channarong Banmongkol , *A Study of Traveling Wave for Fault Detection And Localization in Transmission Line*, AUN SEED-Net Regional Conference, 4-5February 2013, Bangkok, Thailand 2. Amalina Abdullah, Channarong Banmongkol, *Fault Detection and Fault Localization in Transmission Line*, Postgraduate Conference of Electrical Engineering, 8 February 2013, Bangkok, Thailand

2011	1. Noramalina Abdullah, *Image Classification of Brain MRI Using Support Vector Machine* (LabView Software) for case study booklet of National Instrument 2011, ftp://ftp.ni.com/pub/branches/asean/111021-gsdaa_casestudy_booklet.pdf 2. Amalina Abdullah et al, *Moving Vehicle Segmentation in a Dynamic Background Using Self- Adaptive Kalman Background Method*, *2011* IEEE 7th International Colloquium *on* Signal Processing and its Applications (*CSPA 2011*), 4-6 March2011, Penang 3. Amalina Abdullah et al *MRI Brain Classification Using Support Vector Machine*, International Conference on Modeling, Simulation and Applied Optimization (ICMSAO-2011), 19-21 April 2011, Kuala Lumpur 4. Amalina Abdullah et al *Improvement Moving Vehicle Detection Using RGB Removal Shadow Segmentation*, *2011* IEEE International Conference on Control System, Computing and Engineering, 25- 27 November *2011,* Penang 5. Amalina Abdullah et al, *Improvement of MRI Brain Classification Using Principal Component Analysis*, *2011* IEEE International Conference on Control System, Computing and Engineering, 25-27 November 2011, Penang 6. Amalina Abdullah et al, *Image Classification Of Brain MRI Using Support Vector Machine*, *2011* IEEE Conference on Imaging Systems and Techniques (IST 2011), Penang
2010	1. Amalina Abdullah et al , *An Overview Of MRI Brain Classification Using FPGA Implementation*, 2010 IEEE Symposium on Industrial Electronics & Applications (ISIEA 2010), 3rd - 6th October 2010, Penang

Research

1. As Principal Investigator for USM Short Term Grant; AUTOMATED SYSTEM FOR BRAIN MRI CLASSIFICATION USING SUPPORT VECTOR MACHINE (304/PELECT/60310003), January 2010-January 2012, worth RM 32,000.
2. As Principal Investigator for USM Short Term Grant; ESTIMATION OF POWER FAULT LOCATION USING ARTIFICIAL INTELLIGENCE (304/PELECT/60313049), October 2016 – September 2019, worth RM 33,239.
3. As Co-Researcher Fundamental Research Grant Scheme (FRGS); INVESTIGATION ON ENERGY HARVESTING FROM RAINDROP ENERGY, 01/08/2011-31/01/2014, worth RM117,000.00
4. As Co-Researcher for CREST grant; HIGHLY DYNAMIC AUTOMATED GUIDED VEHICLE (AGV) NAVIGATION SYSTEM USING LIGHT DETECTION AND RANGING (LIDAR) PLATFORM IN CONFINED PRODUCTION PLANT, Feb 2019 – Feb 2022, worth RM 148 200.00
5. As Co-Researcher Fundamental Research Grant Scheme (FRGS); Formulation of Intelligent Meta-Heuristic Algorithms for Maximum Power Point Tracking (MPPT) Inspired by Collaborative Conducts of Marine Predators (FRGS/1/2021/TK0/USM/02/14) ; 7 September 2021 – 6 September 2024, worth RM123, 500.00
6. As Co-Researcher Fundamental Research Grant Scheme (FRGS); Higher-order Finite Element Method to Compute Electromechanical Interactions in a Piezoelectric Energy Harvester; FRGS/1/2021/TK0/USM/03/3; 7 September 2021 – 31 August 2023, worth RM 77425.00

7. As Co-Researcher Short Term Grant; DEVELOPMENT AND EXPERIMENTAL STUDY OF PORTABLE GREENHOUSE FARMING SYSTEM USING WIRELESS SENSOR NETWORK IOT INFRASTRUCTURE; 304.PAERO.6315567; 1 ogos 2021 – 31 Julai 2023

Researcher Identifiers

Researcher ID: C-7978 2019

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Scopus Author ID: 57208570673

Google Scholar ID : 8yTHbucAAAAJ

USM expertise Link : noramalina/usmexpertise

Google Scolar citation: https://scholar.google.com/citations?user=8yTHbucAAAAJ&hl=en

LinkedIn Account: https://www.linkedin.com/in/noramalina-abdullah-210709163/

Open Learning Account: https://www.openlearning.com/courses/basic-of-electrical-technology-and-circuit-analysis-betca-/?cl=1

Award

1. Garbage Monitoring System, Bronze Medal Award in MALAYSIA INVENTION & INNOVATION EXPO (MIIX), May 2023

2. Smart Garbage Monitoring System, 3rd Place, OPPSTAR Innovation Challenge 2023, August 2023

3. Basic Of Electrical Technology and Circuit Analysis, Consolation Prize in MOOC Challenge, CENTRE FOR DEVELOPMENT OF ACADEMIC EXCELLENCE UNIVERSITI SAINS MALAYSIA, December 2022 https://www.openlearning.com/courses/basic-of-electrical-technology-and-circuit-analysis-betca-/?cl=1

4. Focus Grip, 2 Gold Medal Award for Innovation and Pitching, UITM INTERNATIONAL VIRTUAL EDUCATIONAL INVENTION, INNOVATION & DESIGN COMPETITION, 2020

5. Study Of Agrophotovoltaic For Benefit Of Smart Farming, First Prize in UNIVERSITI TEKNOLOGI MALAYSIA, INTERNATIONAL UNDERGRADUATES POSTER COMPETITION, 2022 (International)

Recognition

1. Electrical Technology Program Academic Advisor at Kolej Vokasional Balik Pulau from 27.7.2023 –

27.7.2026

2. Invited Speaker at Guangzhou Institute of Technology, China, 30 November 2023 with the title – The Challenges, Opportunities and Future Directions of Smart Manufacturing

3. Professional Technologist (Ts) in Electrical & Electronics Technology from 19.12.2023 by Malaysia Board of Technologist (MBOT)

WON 2nd RUNNER-UP IN OPPSTAR INNOVATION CHALLENGE 2023, AUGUST 2023