



Dr Norasmadi bin Abdul Rahim

Senior Lecturer

PROFILE

Dr. Norasmadi leads and defines projects around pattern recognition, advanced signal processing and system identification at Universiti Malaysia Perlis (UniMAP). His works focus on the design and development of an intelligent system in order to interact with the real-world problem. Norasmadi completed a PhD in 2015 looking at intelligent techniques to recognize an acoustic signal based on pattern recognition (Ensemble Methods). He has authored and co-authored more than 70 research works (journals, book chapters, conference papers) and served on the program and organizing committees of numerous national and international conferences.

ADDRESS

Faculty of Electrical Engineering
Technology, Mechatronic Programme,
Universiti Malaysia Perlis,
Pauh Putra Campus
02600 Arau, Perlis, MALAYSIA

EDUCATION

PhD in Mechatronic Engineering
Universiti Malaysia Perlis, 2015
Pattern Recognition and Signal Processing

MSc in Electrical Engineering
Universiti Teknologi MARA, 2005
Advanced Signal Processing and System
Identification

BSc (Hons) in Electrical Engineering (Power)
Universiti Teknologi MARA, 2002
Power System and Fuzzy Logic Control

WORK EXPERIENCE

Senior Lecturer, Universiti Malaysia Perlis
2015-current

*Mechatronic Head of Program, Universiti
Malaysia Perlis*
2008-2009

Lecturer, Universiti Malaysia Perlis
2005-2008

Teaching Engineer, Universiti Malaysia Perlis
2004-2005

CONTACT



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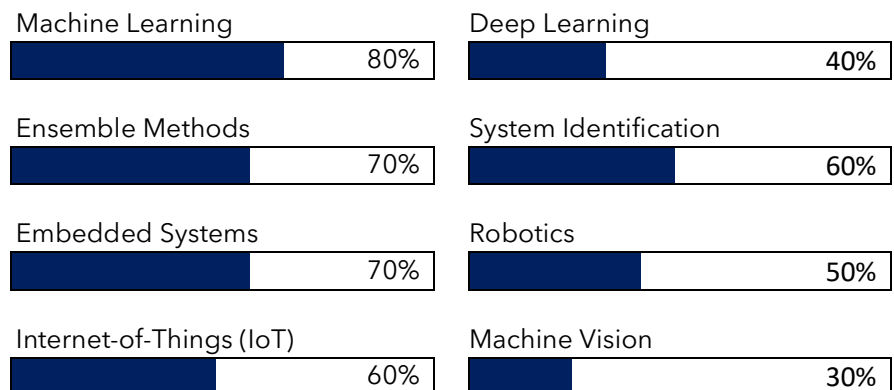
<https://norasmadi.unimap.edu.my>

RESEARCH PROFILE

| | | | |
|----------------|--------------------------|--------------------|-----------------|
| | | | |
| Research Paper | Cumulative Impact Factor | Graduated Students | Active Students |
| 73 | 8.308 | 9 | 7 |

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|----------|-------------|---------------|--------|
| | | | |
| Journals | Conferences | Book Chapters | Awards |
| 25 | 46 | 2 | 20 |

RESEARCH SKILLS



PROFESIONAL ASSOCIATIONS

1. Board of Engineers Malaysia (BEM) - **65984A**
2. Malaysia Board of Technologist (MBOT) - **GT18051436**
3. SClence and Engineering Institute (SCIEI) - **20120705001**
4. International Association of Engineers (IAENG) - **109829**
5. International Association of Computer Science and Information Technology (IACSIT) - **80350254**

POSTGRADUATES SUPERVISION

| Graduated Postgraduate | Main Supervisor | Co- Supervisor |
|----------------------------|-----------------|----------------|
| Doctor of Philosophy (PhD) | 1 | 4 |
| Master of Science (MSc) | 1 | 3 |

| Registered Postgraduate | Main Supervisor | Co- Supervisor |
|----------------------------|-----------------|----------------|
| Doctor of Philosophy (PhD) | 1 | 3 |
| Master of Science (MSc) | - | 3 |

Graduated PhD Postgraduate:

1. Hayder Abdulazeez Yousif Al-Yasari (**Main SV - 2020**) - Evaluation of Lower Limb Muscles Fatigue in 400-Meters Sprinting using Three Pacing Strategies based on sEMG Signal
2. Ahmad Nasrul Norali (**Co-SV - 2020**) - Classification of Human Breathing Activity based on Electromyography Signal of Respiratory Muscles
3. Abdul Syafiq Abdull Sukor (**Co-SV - 2019**) - Context-aware Activity Recognition and Abnormality Detection Approaches in Smart Home Environments
4. Marni Azira Markom (**Co-SV - 2018**) - The Mobile Robot System for Mapping and Localisation Utilising Single Laser Range Finder in Static Environments

Graduated MSc Postgraduate:

1. Yallini A/P Selva (**Co-SV - 2020**) - Effect of Stability Exercises on 10M Air Rifle Shooting Performance
2. Anwar Mohammed Ali (**Co-SV - 2019**) - Smart Room Thermal Comfort Control using Fuzzy Inference System
3. Hayder Abdulazeez Yousif Al-Yasari (**Main SV - 2016**) - A Classification of EMG Signal from Masseter and Buccinators, Muscles to Control the Directional Movement of Power-Assisted Wheelchair
4. Humairah Mansor (**Co-SV - 2013**) - Development of Swarming Algorithm for Mobile Robot
5. Aida Sharmila Wati Binti Wahab (**Co-SV - 2010**) - Design of an Artificial Intelligent Diagnostic system for Tuberculosis Infection

Registered PhD Postgraduate:

1. Ooi Boon Pin (Main SV) - Hybrid Ensemble Model to Solve Small Sample-Sized Classification Problems
2. Mohd Hafiez Mohd Razali (Co-SV) - Intelligent Bioacoustic Monitoring System: Recognition of Animal Sound using Microphone Array
3. Mohd Nazri Abu Bakar (Co-SV) - Quality Measurement of Mango for Grading Standards using Multi Sensor Modalities and Decision Support System
4. Mustafa Mahmood Sabry (Co-SV) - 3D Computed Tomography Analysis using Deep Learning

Registered MSc Postgraduate:

1. Wan Mohd Nooriman Wan Yahya (Co-SV) - Development of Intelligent Green House Irrigation System using Wireless Sensor Network
2. Nor Shaifudin Abdul Hamid (Co-SV) - Detecting Structural Steel Damage Level using Non-Destructive Vibration Testing
3. Azarul Fahmin Ab Hamid (Co-SV) - Connected Car: Predictable and Analytical Vehicle System Diagnostic with Internet of Things

PANEL EXAMINERS

| Degree | Internal | External |
|----------------------------|----------|----------|
| Doctor of Philosophy (PhD) | 1 | - |
| Master of Science (MSc) | 4 | - |

1. Chawki Berkai, Non-Linear Features and Feature Selection Algorithms for Speech based Prediction of Body Mass Index (BMI), Universiti Malaysia Perlis, 2017 (**Internal-PhD**).
2. Siow Lean Thiam, Design and Analysis of Ultrasound Tomography for Imaging of Void Fraction on Composite Pipe, Universiti Malaysia Perlis, 2017 (**Internal-MSc**).
3. Muhammad Aizat Abu Bakar, Development of Portable Electronic Nose for Monitoring the Atmosphere Hazards in Confined Space, Universiti Malaysia Perlis, 2018 (**Internal-MSc**).
4. Asyraf Hakimi Abu Bakar, Non-Invasive Jaundice Detection System using Colour Card Technique, Universiti Malaysia Perlis, 2018 (**Internal-MSc**).
5. Rina Syazwani Zulkafli, A Smart Battery Charging System based on the Depth of Discharged Technique for a Grid-Connected Photovoltaic System, Universiti Malaysia Perlis, 2018 **Internal-(MSc)**.

PROFESSIONAL DEVELOPMENT ACTIVITIES

1. Judge Panel at Politeknik Sultan Abdul Halim Mu'adzam Shah for the National Innovation and Invention Competition through Exhibition 2020 (iCompEx2020)
2. Judge Panel at the National Robotic Competition (NRC) for Open Category (Upper Secondary School) (2019)
3. Invited Speaker and Facilitator at Kolej Matrikulasi Perlis for Robotic Workshop (2019)
4. Speaker at Kedah Industrial Skills and Management Development Centre (KISMEC) for Long Range (LoRa) Transceiver and Internet of Things (IoT) (2018)
5. Invited Speaker and Facilitator at Kolej Matrikulasi Perlis for Robotic Workshop (2018)
6. Invited Speaker at Mechatronic Laboratory, Mie University, Japan for Internet-of-Things (IoT) Workshop (2017)

RESEARCH GRANTS

Active Grant:

| No. | Title | Grant | Duration | Status | Amount |
|-----|----------------------------------------------------------------------------------------------------------------|-------|-----------|--------|----------|
| 1 | New Ensemble Classifier Algorithm Incorporating Deep Learning Dropout Approach for Small Sample-Sized Problems | FRGS | 2020-2022 | Leader | RM66,680 |
| 2 | Optimisation of Stingless Bee Hive Conditions and Corresponding Parameters | FRGS | 2020-2022 | Member | RM79,000 |

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|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|--------------|-----------|
| | Utilising IoT and Machine Learning for Improved Honey Production | | | | |
| 3 | Intelligent Machine Learning Technique for Predicting the Moisture Distribution and Provide Quantification Assessment using Deep Convolutional Neural Network | TRGS | 2019-2022 | Member | RM145,000 |
| 4 | Formulation of Microgrid Energy Management of Energy Internet Using Fuzzy Based Model Predictive Control | FRGS | 2019-2021 | Member (UMP) | RM60,450 |
| 5 | A New Multimodal Classification-based Method for 3D Point Cloud Big Data Management in Heritage Building Preservation | FRGS | 2017-2020 | Member | RM69,000 |

Completed Grant:

| No. | Title | Grant | Duration | Status | Amount |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|--------|-----------|
| 1 | Design of an Artificial Intelligent Diagnostic System for Tuberculosis Infection | Sc Fund | 2007-2009 | Member | RM155,000 |
| 2 | Development of Ultrasonic Tomographic Imaging Instrument for Measuring Oxygen Transfer Rate in Bioreactor | Sc Fund | 2007-2009 | Member | RM205,000 |
| 3 | Fundamental Study and Investigation of Intelligent Algorithm for Autonomous Multi-Terrain Mobile Robot Control and Navigation in Large Scale Plantations | FRGS | 2007-2009 | Leader | RM100,000 |
| 4 | A Study of An Intelligent Control System for Lower Limb Rehabilitation | FRGS | 2007-2009 | Member | RM72,000 |
| 5 | Attitude Control System Project for Innosat | ATSB | 2006-2010 | Member | RM118,000 |
| 6 | Fundamental Study on The Development of Tactile Sensory Aid for Hearing Impaired | FRGS | 2008-2010 | Member | RM101,000 |
| 7 | Memristor based Silicone Brain-Enabling Instantaneous Artificial Neural Network Performing Pattern Recognition | ERGS | 2013-2015 | Leader | RM120,000 |
| 8 | Early Detection System for Indoor Biological and Gas Contaminants | PRGS | 2015-2017 | Member | RM85,000 |
| 9 | Prediction of Solar Energy and Average Clearness Index at North Malaysia Region | STG | 2006-2007 | Member | RM10,000 |

INDUSTRIAL COLLABORATIONS AND RESEARCH CONSULTATIONS

1. Research Consultant for Blades Manufacturing Processes: Robotics for Rod Pick and Place at Walta Engineering Sdn. Bhd. **(2017-2018)**
2. Collaboration on the Design and Development of Automatic Waterjet Fruit Peeling and Cutting Machine at Walta Engineering Sdn. Bhd. **(2020)**
3. Collaboration on the Design and Development of Fully Integrated IR4.0 Manufacturing Line for Surgical Blades at PGMedic (M) Sdn. Bhd. **(2020)**

SCIENTIFIC COMMUNITY SERVICES

Program Committees:

1. **Webmaster**, Virtual Expo of Innovation Product and System Design 2020 (ViDE2020)
2. **Technical**, International Conference on Man Machine Systems (ICoMMS2019)
3. **Secretariat**, International Conference on Man Machine Systems (ICoMMS2017)
4. **Secretariat and Webmaster**, The 11th Asian Conference on Chemical Sensor (ACCS2015)

Reviewer (Journal):

1. Pervasive and Mobile Computing (**2020**)
2. Journal of Digital Signal Processing (**2017,2018,2019,2020**)
3. Journal of Measurement and Control (**2017,2018**)
4. Journal of Computers and Electronics in Agriculture (**2017**)
5. Journal of Language Research and Evaluation (**2013**)

Reviewer (Conference):

1. International Conference on Signal Processing Systems (ICSPS) (**2016,2018,2019,2020**)
2. International Conference on Man Machine Systems (ICoMMS)(**2017,2019**)
3. International Conference on Biomedical Engineering (ICoBE)(**2019**)
4. Malaysian Technical Universities Conference on Engineering and Technology (MUCET)(**2017**)
5. IEEE Student Conference on Research and Development (SCoReD) (**2014,2015**)
6. International Colloquium on Science and Technology (ICOST)(**2014**)
7. IEEE Colloquium on Humanities, Science & Engineering Research (CHUSER)(**2014**)
8. IEEE Symposium on Business, Engineering & Industrial Applications (ISBEIA)(**2013**)
9. IEEE Business, Engineering & Industrial Applications Colloquium (BEIAC)(**2013**)
10. IEEE Symposium on Industrial Electronics and Applications (ISIEA)(**2012**)

AWARDS

University Awards:

1. Anugerah Perkhidmatan Cemerlang - **2008**
2. Anugerah Perkhidmatan Cemerlang - **2017**

Competition Awards:

| No | Project | Medal | Award | Year |
|----|-----------------------------------------------------------------------------------------|--------|--------|------|
| 1 | Design and Development of a Multi-Terrain Mobile Robot for Oil Palm Estate Applications | Bronze | UniMAP | 2007 |
| 2 | Process Tomography Imaging Sensor | Gold | UniMAP | 2008 |
| 3 | Process Tomography Imaging Sensor | Gold | MTE | 2008 |
| 4 | Autonomous Mobile Robot Surveillance (ARMSBot) | Bronze | UniMAP | 2008 |

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|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------|------|
| 5 | An Intelligent Gesture to Voice Communication System for Hearing Impaired | Gold | UniMAP | 2009 |
| 6 | An Intelligent Sign Language to Voice Communication System for Hearing Impaired | Gold | ITEX | 2010 |
| 7 | An Early Detection of Basal Stem Rot (BSR) Disease in Oil Palm Trunk using Intelligent Autonomous Robot | Bronze | MTE | 2011 |
| 8 | Low Cost SMS-based Car Security System | Bronze | MTE | 2011 |
| 9 | Nurse Following Robot: An Automated Robust Nurse Following Robot by Enhance High-Speed Vision System with Sensor Integration for Dynamic Human Tracking and Obstacle Avoidance | Silver | UniMAP | 2012 |
| 10 | ChicSense : Malodour Monitoring System | Gold | BIS | 2013 |
| 11 | NYSIS: Natural Intel Indoor Air Purifier | Bronze | BIS | 2013 |
| 12 | Aromatic Rice classification System (ARCSys) | Gold | UniMAP | 2014 |
| 13 | Aromatic Rice classification System (ARCSys) | Silver | MTE | 2014 |
| 14 | HAZSens: Web-Based Machine Olfaction System for Atmospheric Hazards | Silver & Special Award | IENA | 2014 |
| 15 | Occupational Noise Exposure Monitoring for Manufacturing Industries | Silver | EREKA | 2016 |
| 16 | Lighting System based on the Human Presence | 2 nd Place | TGL-CTREST | 2017 |
| 17 | IOT-ACT: An IOT-based Air Conditioning Control for Thermal Comfort | Silver | EREKA | 2018 |
| 18 | Smart Manufacturing: Voice Controlled Automation | 1 st Place | VINDREC | 2018 |

PUBLICATIONS

Journal:

1. A.S. Abdull Sukor, L.M. Kamarudin, A. Zakaria, N. Abdul Rahim, S. Sudin, H. Nishizaki, "RSSI-Based for Device-Free Localization Using Deep Learning Technique", Journal of Smart Cities, Vol. 3, Issue 2, Pages 444-455, **2020** [[Link](#)]
2. B.P. Ooi, N. Abdul Rahim, A. Zakaria, M.J. Masnan, S.A. Abdul Shukor, "Random Subspace Oracle (RSO) Ensemble to Solve Small Sample-Sized Classification Problems", Journal of Intelligent & Fuzzy Systems, Vol. 36, Issue 4, Pages 3225-3234, **2019 (Q2 - Impact Factor: 1.637)**
3. A.S. Abdull Sukor, A. Zakaria, N. Abdul Rahim, L.M. Kamarudin, R. Setchi, H. Nishizaki, "A Hybrid Approach of Knowledge-Driven and Data-Driven Reasoning for Activity Recognition in Smart Homes", Journal of Intelligent & Fuzzy Systems, Vol. 36, Issue 5, Pages 4177-4188, **2019 (Q2 - Impact Factor: 1.637)**

4. B.P. Ooi, N. Abdul Rahim, A. Zakaria, M.J. Masnan, S.A. Abdul Shukor, M.P. Paulraj, "Parametric Feature Selection for an Enhanced Random Linear Oracle Ensemble Method", *Journal of Telecommunication, Electronic and Computer Engineering*, Vol. 10, No. 1-13, Pages 111-116, **2018**
5. A.S.A. Sukor, A. Zakaria, N. Abdul Rahim, R. Setchi, "Semantic Knowledge Base in Support of Activity Recognition in Smart Home Environments", *International Journal of Engineering & Technology*, Vol. 7, No. 4.27, Pages 67-72, **2018**
6. S.A. Abdul Shukor, N. Abdul Rahim, K. Kohlhof, Z.A.Z. Jamal, "Internet-of-Things (IoT) for Human Thermal Comfort: A Simulative Investigation", *Journal of Telecommunication, Electronic and Computer Engineering*, Vol. 10, No. 1-14, Pages 119-123, **2018**
7. M.N. Abu Bakar, A.H. Abdullah, N. Abdul Rahim, H. Yazid, S.N. Misman, M.J. Masnan, "Rice Leaf Blast Disease Detection Using Multi-Level Colour Image Thresholding", Vol. 10, No. 1-14, Pages 1-6, **2018**
8. N.S. Khalid, A.H. Abdullah, S.A.A. Shukor, N.D. Dalila, M.J. Masnan, H. Mansor, N. Abdul Rahim, F.S.A. Sa'ad, "Detection of Colletotrichum Gloeosporioides Fungus Isolates Development/Spread for Mango (*Mangifera Indica* L.) Cultivar from Electronic Nose Using Multivariate-Statistical Analysis", *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Vol. 10, No. 1-6, Pages 171-175, **2018**
9. B.P. Ooi, N. Abdul Rahim, A. Zakaria, M.J. Masnan, S.A. Abdul Shukor, "An Enhanced Random Linear Oracle Ensemble Method using Feature Selection Approach based on Naïve Bayes Classifier", *Journal of Telecommunication, Electronic and Computer Engineering*, Vol. 9, No. 4, Pages 69-77, **2017**
10. A.N. Norali, A.H. Abdullah, Z. Zakaria, N. Abdul Rahim, S.K. Nataraj, "Human Breathing Classification Using Electromyography Signal with Features Based on Mel-Frequency Cepstral Coefficients", *International Journal of Integrated Engineering - Special Issue on Electrical Electronic Engineering* Vol. 9, No. 4, Pages 85-92, **2017**
11. A.F. A Hamid, M. T. A. Rahman, S. F. Khan, A. H. Adom, M. A. Rahim, N. Abdul Rahim, M. H. N. Ismail, A. Norizan, "Connected car: Engines diagnostic via Internet of Things (IoT)", *Journal of Physics: Conference Series (JPCS)*, 908 (1), Pages 1-11, **2017**
12. Hayder A. Azeez, N. Abdul Rahim, M. J. A. Safar, "EMG Controlled Wheelchair Movement based on Masseter and Buccinators Muscles", *International Journal of Engineering Trends and Technology (IJETT)*, Vol. 37, No. 3, Pages 133-139, **2016**
13. Hayder A. Azeez, N. Abdul Rahim, M. J. A. Safar, "Controlling Power-assisted Wheelchair Movements by using LDA Classifier", *International Journal of Engineering Trends and Technology (IJETT)*, Vol. 37, No. 5, Pages 269-272, **2016**
14. N. Abdul Rahim, MP Paulraj, A.H. Adom, S.A. Abdul Shukor, M.J. Masnan, "Homogeneous Multi-Class Classifier System for Moving Vehicles Noise Classification Based on Multilayer Perceptron", *Journal of Intelligent & Fuzzy Systems*, Vol. 29, No. 1, Pages 149-157, 2015 (**Q2 - Impact Factor: 1.812**)
15. Nurlisa Yusuf, Ammar Zakaria, Mohammad Iqbal Omar, Ali Yeon Md Shakaff, Maz Jamilah Masnan, Latifah Munirah Kamarudin, Norasmadi Abdul Rahim, Nur Zawatil Isqi Zakaria, Azian Azamimi Abdullah, Amizah Othman and Mohd Sadek Yasin, "In-Vitro Diagnosis of Single and Poly Microbial Species Targeted for Diabetic Foot Infection using E-Nose Technology", *BMC Bioinformatics*, Vol. 16, Issue 1, Pages 158, 2015 (**Q1 - Impact Factor: 2.58**)
16. M. H. M. Razali, S. M. Mamduh, K. Kamarudin, A. Zakaria, N. A. Rahim, L. M. Kamarudin, N. Azmi, A. Y. M. Shakaff, F. S. A. Saad, and S. A. A. Shukor, "Development of Microphone System for Low Cost Bioacoustic Device", *Journal of Medical Imaging and Health Informatics*, Vol. 5, No. 6, Pages 1242-1245, 2015 (**Q4 - Impact Factor: 0.642**)
17. Humairah Mansor, Abdul Hamid Adom, Norasmadi Abdul Rahim, "Development of Leader and Follower Strategy for Swarm Robot Applications", *Jurnal Teknologi*, Vol. 77, No. 28, Pages 55-59, **2015**

18. A.H. Abdullah, A.Y.M. Shakaff, A.H. Adom, A. Zakaria, F.S.A. Saad, N.A. Rahim, K. Kamaruddin, S.M. Mamduh, J.M. Sah, T.G. Teo, "Mobile Olfaction System for Poultry Farm Malodour Monitoring", Australian Journal of Basic & Applied Sciences, 8(4), Special **2014**, Pages 593-600.
19. N. Abdul Rahim, Paulraj M P and A.H. Adom, "Classification of Moving Vehicles using Multi-Classifer with Time-Domain Approach", International Journal of Computer Applications, Volume 71, No. 1, Pages 12-17, June **2013** (ISSN: 0975-8887).
20. N. Abdul Rahim, M.P. Paulraj, A.H. Adom, "Heterogeneous Multi-Classifiers for Moving Vehicle Noise Classification using Bootstrap Method", International Journal of Engineering and Advanced Technology™ (IJEAT), Volume-2, Issue-4, April **2013**, Pages 435-439 (ISSN: 2249-8958).
21. N. Abdul Rahim, M.P. Paulraj, A.H. Adom, "Adaptive Boosting with SVM Classifier for Moving Vehicle Classification", Journal of Procedia Engineering, Volume 53 (**2013**), Pages 411-419 (ISSN: 1877-7058)
22. M.P. Paulraj, Abdul Hamid Adom, Sathishkumar Sundararaj, Norasmadi Bin Abdul Rahim, "Moving Vehicle Recognition and Classification based on Time Domain Approach", Journal of Procedia Engineering, Volume 53 (**2013**), Pages 405-410 (ISSN: 1877-7058).
23. N. Abdul Rahim, Paulraj M P, A.H. Adom, "Homogeneous Multi-Classifiers for Moving Vehicle Classification", Karpagam Journal of Computer Science, Vol 6, pp. 342-354, Issue Sep-Oct **2012**.
24. A.H. Ismail, S.J. Jamil, A. Hilmy Ismail, M.N. Ayob, N. Abdul Rahim, "A Comprehensive Study of Using 2D Barcode for Multi Robot Labelling and Communication", International Journal on Advanced Science Engineering Information Technology, Vol. 2 (**2012**), No. 1 (IJASEIT)
25. Humairah Mansor, Abdul Hamid Adom, Norasmadi Abdul Rahim, "Wireless Communication for Mobile Robots Using Commercial System", International Journal on Advanced Science Engineering Information Technology, Vol. 2 (**2012**), No. 1 (IJASEIT)

Book Chapters:

1. N. Abdul Rahim, Paulraj M P, A. H. Adom, "Adaptive Boosting for Moving Vehicle Noise Classification using SVM and KNN Classifier", Emerging Trend in Engineering Research, Vol 1, pp 229-238, **2013**, Bonfring Publisher, India (ISBN 978-93-82338-32-1)
2. A.H. Abdullah, N.A. Rahim, M.J. Masnan, F.S.A. Sa'ad, A. Zakaria, A.Y.M. Shakaff, O. Omar "Rice and The Electronic Nose", The Electronic Nose and Tongue in Food Science, pp. 103-113, **2016**, Elsevier Inc. (ISBN:978-0-12-800243-8)

Conferences:

1. M.A. Markom, A.H. Adom, S.A. Abdul Shukor, N. Abdul Rahim, E.S. Mohd Muslim Tan, B. Ilias, "Improved KNN Scan Matching for Local Map Classification in Mobile Robot Localisation Application", IOP Conference Series: Materials Science and Engineering, Vol. 557, Issue 1, Pages 1-6, **2019**
2. A.S. Abdull Sukor, A. Zakaria, N. Abdul Rahim, L.M. Kamarudin, H. Nishizaki, "Abnormality Detection Approach using Deep Learning Models in Smart Home Environments", International Conference on Communications and Broadband Networking, Pages 22-27, **2019**.
3. H.A. Yousif, A. Zakaria, N. Abdul Rahim, A.F. Salleh, M. Mahmood, K.A. Alfarhan, L.M. Kamarudin, S.M. Mamduh, A.M. Hasan and M.K. Hussain, "Assessment of Muscles Fatigue Based on Surface EMG Signals Using Machine Learning and Statistical Approaches: A Review", IOP Conference Series: Materials Science and Engineering, Vol. 705, Issue 1, Pages 1-8, **2019**
4. W.W. Tai, B. Ilias, S.A. Abdul Shukor, N. Abdul Rahim and M.A. Markom, "A Study of Ultrasonic Sensor Capability in Human Following Robot System", IOP Conference Series: Materials Science and Engineering, Vol. 705, Issue 1, Pages 1-9, **2019**

5. S.N. Mohd Isa, S.A. Abdul Shukor, N. Abdul Rahim, I. Maarof, Z.R. Yahya, A. Zakaria, A.H. Abdullah and R. Wong, "Point Cloud Data Segmentation Using RANSAC and Localization", IOP Conference Series: Materials Science and Engineering, Vol. 705, Issue 1, Pages 1-8 , **2019**
6. M.A. Abd Halim, M.T.A. Rahman, N. Abdul Rahim, A. Rahman, A.F.A. Hamid, N.A.M. Amin, "Analysis on Current Flow Style for Vehicle Alternator Fault Prediction", IOP Conference Series: Materials Science and Engineering, Vol. 670, Issue 1, Pages 1-5 , **2019**
7. S.N. Mohd Isa, S.A. Abdul Shukor, N.A. Rahim, I. Maarof, Z.R. Yahya, A. Zakaria, A.H. Abdullah, R. Wong, "Orientation-Based Pairwise Coarse Registration with Markerless Terrestrial Laser Scans", International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences, Pages 425-432, **2019**
8. H.A. Yousif, N. Abdul Rahim, A.F. Salleh, A. Zakaria, K.A. Alfarhan and M. Mahmood, "A Study of Lower Limb Muscles Fatigue during Running Based on EMG Signals", IEEE International Conference on Sensors and Nanotechnology, Pages 1-4, **2019**
9. A.M. Ali, S.A. Abdul Shukor, N.A. Rahim, Z.M. Razlan, Z.A.Z. Jamal, K. Kohlhof, "IoT-based Smart Air Conditioning Control for Thermal Comfort", IEEE International Conference on Automatic Control and Intelligent Systems (I2CACIS), Pages 289-294, **2019**
10. M.A. Markom, A.H. Adom, S.A. Abdul Shukor, N. Abdul Rahim, E.S. Mohd Muslim Tan, B. Ilias, "Improved KNN Scan Matching for Local Map Classification in Mobile Robot Localisation Application", IOP Conference Series: Materials Science and Engineering, Vol. 557, Issue 1, Pages 1-6, **2019**
11. A.S. Abdull Sukor, A. Zakaria, N. Abdul Rahim, "Activity recognition using accelerometer sensor and machine learning classifiers", International Colloquium on Signal Processing & Its Applications (CSPA), Pages 233-238, **2018**
12. W.M. Nooriman, A.H. Abdullah, N. Abdul Rahim, K. Kamarudin, "Development of wireless sensor network for Harumanis Mango orchard's temperature, humidity and soil moisture monitoring", Symposium on Computer Applications & Industrial Electronics (ISCAIE), Pages 263-268, 2018
13. B. Ilias, S.A. Abdul Shukor, A.H. Adom, N. Abdul Rahim, M.F. Ibrahim, S. Yaacob, "Indoor Mobile Robot Localization using KNN", IEEE International Conference on Control System, Computing and Engineering (ICCSCE), **2017**
14. A.N. Norali, A.H. Abdullah, Z. Zakaria, N. Abdul Rahim, S.K. Nataraj, "Human Breathing Assessment using Electromyography Signal of Respiratory Muscles", International Conference on Control System, Computing and Engineering (ICCSCE), Pages 1, **2017**
15. A.N Norali, A.H Abdullah, Z. Zakaria, N. Abdul Rahim, V. Vijejan, S.K. Nataraj, "Classification of human breathing task based on electromyography signal of respiratory muscles", International Colloquium on Signal Processing & its Applications (CSPA), Pages 196-201, **2017**
16. A.H. Abdullah, S.A. Shukor, M.S. Kamis, A.Y.M. Shakaff, A. Zakaria, N. Abdul Rahim, S.M. Mamduh, K. Kamarudin, F.S.A. Saad, M.J. Masnan, H. Mustafa, "Calibration of an electronic nose for poultry farm", Pages 1, **2017**
17. K. A. A. Aziz, A. F. Salleh, N. Abdul Rahim, M. H. M. Som, H. Sakeran, "Influence of Synchronized Dead Point Elimination Crank on Cyclist Muscle Fatigue", 2nd International Conference on Green Design and Manufacture (IConGDM 2016), Pages 1-6, **2016**
18. N. Abdul Rahim, Paulraj M.P., A.H. Adom, S.A.A. Shukor and M.H. Masnan, "Multi-Classifer System for Moving Vehicles Noise Classification based on K-Nearest Neighbor", Proceeding of the 2015 International Symposium on Advanced Engineering (**ISAE 2015**) - **Best Paper Award**
19. A.H. Abdullah, A.H. Adom, A.Y.M. Shakaff, M.J. Masnan, A. Zakaria, N.A. Rahim, O. Omar, "Classification of Malaysia Aromatic Rice using Multivariate Statistical Analysis", International Conference on Mathematics, Engineering and Industrial Applications 2014 (ICoMEIA **2014**).

20. Tan Hui Ling, S Ahmad Faizal, Norasmadi Abdul Rahim, Wan Mohd Zuki, "Feature Extraction of Knee Joint Vibroarthrographic (VAG) Signal Using Statistical Means", Applied Mechanics and Materials, Pages 832-835, November **2014** (ISSN: 1662-7482).
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