

CURRICULUM VITAE



PROF. GS. DR. SHAFUL JAHARI HASHIM

Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia, 43400 Serdang, Selangor.

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Education

- Ph.D, Radio Frequency (RF) Measurement System for Wireless Power Amplifier, Cardiff University, United Kingdom (2011)
- M.Sc, Electrical and Electronics Engineering, Universiti Kebangsaan Malaysia (UKM), Malaysia (2003)
- B.Eng (Hons), Electronics and Communication Engineering, University of Birmingham, United Kingdom (1998)

Areas of Interest

- Cloud Computing, IoT, Network Security, Wireless, 6G

Professional Membership & Learned Society

1. Professional Member, Institution of Geospatial and Remote Sensing Malaysia (IGRSM)
2. Member, Akademi Sains Malaysia (Malaysian Academy of Science)
3. Member, Majlis Profesor Negara, (National Council of Professors)
4. Member, International Association of Engineers (IAE)

Appointments

Position	Duration
1. Head of Laboratory, Network Modelling Laboratory, Institute for Mathematical Research (INSPEM), UPM	2024 - present
2. Advisor Center of Excellence (COE) for Micro System Technology (MiCTEC), Universiti Malaysia Perlis (UniMAP)	2022 - present
3. Associate Member of ISO/IEC JTC 1/SC 41: Internet of Things and Digital Twin, Joint Technical Committee of International Electrotechnical Commission (IEC) and International Organization for Standardization (ISO)	2021 - present
4. Professor, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia (UPM)	2021 - present
5. Chairman of Working Group (WG), IT Policy and Hardware, IT Committee, Board of Engineers Malaysia (BEM)	2020 - present
6. Member, Doctor of Engineering (DEng) Program Committee, Faculty of Engineering, UPM	2020 - present
7. Internet of Things (IoT), Technical Group Expert Panel, Department of Standards Malaysia	2019 - present
8. Collaborator with Universiti Malaya in Radio Astronomy Project for e-VLBI between Malaysia and China	2014 - present

9. Direct Negotiation Procurement Committee Member, Faculty of Engineering, UPM	2013 - present
10. Advisor, Diploma of Computer Science, UNITI College, Malaysia	2012 - present
11. Associate Member, Malaysian Technical Standards Forum (MTSFB)	2012 - present
12. Faculty of Engineering Technical Committee for Tender and Quotations, Faculty of Engineering	2009 - present
13. Visiting Professor, EINSERB-MATMECA, INP-BORDEAUX, France	2024
14. Referee, Professor (VK7) Promotion, Faculty of Information Science & Technology, Universiti Kebangsaan Malaysia (UKM)	2023
15. Visiting Professor, Ajman University, Ajman, UAE	2023
16. External PhD Examiner (Network Security), La Trobe University, Australia	2022
17. Associate Professor, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia (UPM)	2017 - 2021
18. Member, CCSE Under Graduate Curriculum Review Committee, Faculty of Engineering, UPM (2021 - 2025)	2020
19. Faculty of Engineering Representative, UPM Library	2017 - 2019
20. Visiting Researcher, EV Car IoT and Telematics System Development Project, Toyota Autobody Japan	2018
21. Visiting Lecturer, Kyutech, Japan	2017
22. Visiting Researcher, Rotating Polarization Wave Project, Hitachi R&D Japan	2017
23. Expert Reference for Laboratory Design for Master Course in Electrical and Electronics, Lincoln University College, Malaysia	2017
24. External PhD Examiner (Wireless Sensor Network), Universiti Utara Malaysia (UUM)	2016
25. Innovation Day Panel Judge Panel, Mara Matriculation College Banting, Selangor, Malaysia	2016
26. Member, CCSE Under Graduate Curriculum Review Committee, Faculty of Engineering, UPM (2016-2020)	2015
27. Real-time Flight Tracking and Virtual Blackbox (MH370), Bernama TV	2014
28. Panel Judge, Creativity and Innovation Competition, Dept. of Human Resource, Ministry of Human Resource	2013
29. Member, CCSE Under Graduate Curriculum Review Committee, Faculty of Engineering, UPM (2016-2020)	2015
30. International Expert Panel on IoT for Flight Tracking (MH370), International Civil Aviation Organization (ICAO) and International Telecommunication Union Telecommunication Standardization (ITU-T)	2014
31. Chairman, Multimedia and ICT Committee, Faculty of Engineering, UPM	2013 - 2019
32. Member, cLINK Program Executive Committee, ERASMUS MUNDUS	2013 - 2019
33. Member, ICT Executive Committee, InfoComm Development Centre (iDEC), UPM	2013 - 2019
34. Head, Application Unit, Research Center for Wireless Network and Photonics (WiPNET), UPM	2013 - 2014

35. Senior Lecturer, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia (UPM)	2012 - 2017
36. Member, Organizing Committee, Advancing Partnership in ICT In Conjunction with United State of America (USA) ICT Trade Mission to Malaysia	2013
37. Visiting Lecturer, KazNAU University, Kazakhstan	2013
38. Subject Matter Expert Panel for Telecommunications, MIGHT-METEOR	2013
39. Panel Judge, Creativity and Innovation Competition, Manpower Department, Ministry of Human Resource, Malaysia	2013
40. Subject Matter Expert Panel for Telecommunications, MIGHT-METEOR	2013
41. Mentor, English Immersion Program, Faculty of Engineering, UPM	2012 - 2013
42. Viva Voce Session Moderator, Universiti Tenaga Nasional (UNITEN)	2012
43. Organizer, First Malaysian Professor OpenSource Summer School (POSSE)	2011
44. Member, Master Without Thesis Curriculum Committee for MSc Communication Engineering Committee, CCSE Department, Faculty of Engineering, UPM	2011
45. Member, UNITI College BEng (Multimedia Technology) Curriculum Review Committee (2011 – 2015)	2011
46. Standard Member, Malaysia IPTV Standard Body, MTSFB	2011
47. Member, CCSE Under Graduate Curriculum Review Committee, Faculty of Engineering, UPM (2011-2015)	2010
48. Visting Researcher, Centre for High Frequency, Cardiff School of Engineering, Cardiff University, Cardiff, UK	2010
49. Senior Lecturer, Department of Computer and Communication Systems Engineering (CCSE), Faculty of Engineering, Universiti Putra Malaysia (UPM)	2004 - 2012
50. Expert panel, Wireless Sensor Network Research, Ministry of Water, Energy and Communication	2009
51. Teaching Assistant, Electronic Design Laboratory, Cardiff University, United Kingdom	2006 - 2009
52. Excellent Scientist Award, Malaysian Ministry of Higher Education (MOHE)	2005
53. Speaker, Top Flyers Program, Universiti Putra Malaysia (UPM)	2004 – 2005
54. Project Manager, Online Web Based E-Learning Portal Design and Development (WebED), Faculty of Engineering, UPM	2004
55. Tutor, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia (UPM)	2000 - 2004
56. Research Assistant, Universiti Kebangsaan Malaysia (UKM)	1999 - 2000

Journals:

1. M. M. Ali, S. J. Hashim, M. A. Chaudhary, G. Ferré, F. Z. Rokhani, Z. Ahmad, Error Mitigation in LPWAN Systems: A Study on The Efficacy of Hamming-Coded RPW, PLoS ONE, Vol. 19, Issue 6, pp. 1 - 20, e0304386, 2024
2. H. N. Choo, S. J. Hashim, N. A. A. Latiff, F. Z. Rokhani, Z. Yusoff, P. Varahram, Complexity Reduction of Model Operations in Generalized Memory Polynomial for Digital Predistortion, Journal of Engineering Science and Technology, Vol. 19, No. 3, 2024
3. Y. Ang, H. Z. M. Shafri, Y. P. Lee, S. A. Bakar, H. Abidin, S. J. Hashim, M. N. Samad, N. N. Che'ya, M. R. Hassan, H. S. Lim, R. Abdullah, Y. Yusup, S. A. Muhammad, T. S. Yin, M. B. A. Gibril, Block-scale Oil Palm Yield Prediction Using Machine Learning Approaches Based on Landsat and MODIS Satellite Data, Journal of Advanced Research in Applied Sciences and Engineering Technology, Vol. 45, No. 1, 2024
4. M. M. Ali, S. J. Hashim, M. A. Chaudhary, G. Ferré, F. Z. Rokhani, Z. Ahmad, A Reviewing Approach to Analyze the Advancements of Error Detection and Correction Codes in Channel Coding with Emphasis on LPWAN and IoT Systems, IEEE Access, Vol. 11, pp. 127077-127097, 2023
5. M. Talebkhah, A. Sali, M. Gordan, S. J. Hashim, F. Z. Rokhani, Comprehensive Review on Development of Smart Cities Using Industry 4.0 Technologies, IEEE Access, Vol. 11, pp. 91981-92030, 2023
6. I. K. Thajeel, K. Samsudin, S. J. Hashim, F. Hashim, Machine and Deep Learning-Based XSS Detection Approaches: A Systematic Literature Review, Journal of King Saud University-Computer and Information Sciences, Vol. 35, Issue 7, 2023
7. H. Khalid, S. J. Hashim, S. M. S. Ahmad, F. Hashim, M. A. Chaudhary, HOOPOE: High Performance and Efficient Anonymous Handover Authentication Protocol for Flying Out of Zone UAVs, IEEE Transactions on Vehicular Technology, Vol. 72, Issue 8, pp. 10906 - 10920, 2023
8. M. T. Al-Ahmed, F. Hashim, S. J. Hashim, A. Abdullah, Authentication-Chains: Blockchain-Inspired Lightweight Authentication Protocol for IoT Networks, MDPI Electronics, Vol. 12, Issue 4, pp. 1 - 20, 2023
9. Z. Ahmad, S. J. Hashim, G. Ferre, F. Z. Rokhani, S. A. R. Al-Haddad, A. Sali, LoRa and Rotating Polarization Wave: Physical Layer Principles and Performance Evaluation, IEEE Access, Vol. 11, pp. 14892 - 14905, 2023
10. I. K. Thajeel, K. Samsudin, S. J. Hashim, F. Hashim, Dynamic Feature Selection Model for Adaptive Cross Site Scripting Attack Detection Using Developed Multi-Agent Deep Q Learning Model, Journal of King Saud University - Computer and Information Sciences, Vol. 35, Issue 6, 2023
11. Y. W. Lim, N. A. Kamsani, R. M. Sidek, S. J. Hashim, F. Z. Rokhani, Energy-Performance Optimization via P/N Ratio Sizing with Full Diffusion Layout Structure and Standard Cell Height Tuning in Near-threshold Voltage Operation, IEEE Access, Vol. 11, pp. 12536 - 12546, 2023

12. M. B. A. Gibril, H. Z. M. Shafri, Gibril, A. Shanableh, R. Al-Ruzouq, A. Wayayok, S. J. Hashim, M. S. Sachit, Deep Convolutional Neural Networks and Swin Transformer-Based Frameworks for Individual Date Palm Tree Detection and Mapping from Large-Scale UAV Images, *Geocarto International*, Vol. 37, Issue 27, pp. 18569 - 18599, 2022
13. M. A. Al-Kubaisi, H. Z. M. Shafri, M. H. Ismail, M. J. M. Yusof, S. J. Hashim, Hyperspectral Image Classification by Integrating Attention-Based LSTM and Hybrid Spectral Networks, *International Journal of Remote Sensing*, Vol. 43, Issue 9, pp. 3450 - 3469, 2022
14. M. G. Sadeque, Z. Yusoff, S. J. Hashim, A. S. M. Marzuki, J. Lees, D. FitzPatrick, Design of Wideband Continuous Class-F Power Amplifier Using Low Pass Matching Technique and Harmonic Tuning Network, *IEEE Access*, Vol. 10, pp. 92571 - 92582, 2022
15. J. I. Al-Azizi, H. Z. M. Shafri, S. J. B. Hashim, S. B. Mansor, DeepAutoMapping: Low-Cost and Real-Time Geospatial Map Generation Method Using Deep Learning and Video Streams, *Earth Science Informatics*, Vol. 15, Issue 3, pp. 1481 - 1494, 2022
16. Y. Ang, H. S. Zulhaidi, Y. P. Lee, H. Abidin, S. A. Bakar, S. J. Hashim, N. N. Che'Ya, M. R. Hassan, H. S. Lim, R. Abdullah, A Novel Ensemble Machine Learning and Time Series Approach for Oil Palm Yield Prediction Using Landsat Time Series Imagery Based on NDVI, *Geocarto International*, Vol. 37, Issue 25, pp. 9865 - 9896, 2022
17. Y. Ang, H. S. Zulhaidi, Y. P. Lee, H. Abidin, S. A. Bakar, S. J. Hashim, N. N. Che'Ya, M. R. Hassan, H. S. Lim, R. Abdullah, Oil Palm Yield Prediction Across Blocks from Multi-Source Data Using Machine Learning and Deep Learning, *Earth Science Informatics*, Vol. 15, pp. 2349 - 2367, 2022
18. M. S. A. Mustafa, B. M. Ali, M. F. A. Rasid, S. J. Hashim, I. A. Saeed, A Proactive Greedy Routing Protocol Precludes Sink-Hole Formation In Wireless Sensor Networks, *International Journal of Wireless & Mobile Networks*, Vol. 14, Issue 1, 2022
19. M. T. Al-Ahmed, F. Hashim, S. J. Hashim, A. Abdullah Hierarchical Blockchain Structure for Node Authentication in IoT Networks, *Egyptian Informatics Journal*, Vol. 23, Issue 2, pp. 345 - 361, 2022
20. S. A. Zareianjahromi, N. A. Kamsani, F. Z. Rokhani, R. M. Sidek, S. J. Hashim, A 1 V - 21 dBm Threshold Voltage Compensated Rectifier for Radio Frequency Energy Harvesting, *Indonesian Journal of Electrical Engineering and Computer Science*, Vol. 27, Issue 1, pp. 28 - 36, 2022
21. H. Khalid, S. J. Hashim, S. M. S. Ahmad, F. Hashim, M. A. Chaudhary, A Lightweight and Secure Online/Offline Cross-Domain Authentication Scheme for VANET Systems in Industrial IoT, *PeerJ Computer Science*, pp. 1 - 44, 2021
22. H. Khalid, S. J. Hashim, S. M. S. Ahmad, F. Hashim, M. A. Chaudhary, Robust Multi-Gateway Authentication Scheme for Agriculture Wireless Sensor Network in Society 5.0 Smart Communities, *MDPI Agriculture*, pp. 1 - 34, 2021
23. H. Khalid, S. J. Hashim, S. M. S. Ahmad, F. Hashim, M. A. Chaudhary, SELAMAT: A New Secure and Lightweight Multi-Factor Authentication Scheme for Cross-Platform Industrial IoT Systems, *MDPI Sensors*, pp. 1 - 32, 2021
24. A. F. Hussein, S. J. Hashim, F. Z. Rokhani, W. A. Wan Adnan, An Automated High-Accuracy Detection Scheme for Myocardial Ischemia Based on Multi-Lead Long-Interval ECG and Choi-

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- Williams Time-Frequency Analysis Incorporating a Multi-Class SVM Classifier, MDPI Sensors, pp. 1 - 16, 2021
25. H. Khalid, S. J. Hashim, S. M. S. Ahmad, F. Hashim, M. A. Chaudhary, A New Hybrid Online and Offline Multi-Factor Cross-Domain Authentication Method for IoT Applications in the Automotive Industry, MDPI Energies, Vol. 14, Issue 21, pp. 1 - 34, 2021
 26. H. Khalid, S. J. Hashim, S. M. Syed Ahmad, F. Hashim, M. A. Chaudhary, Cross-SN: A Lightweight Authentication Scheme for A Multi-Server Platform Using IoT-Based Wireless Medical Sensor Network, MDPI Electronics, Vol. 10, Issue 7, pp. 1 - 17, 2021
 27. Z. Ahmad, S. J. Hashim, F. Z. Rokhani, S. A. R. Al-Haddad, A. Sali, K. Takej, Quaternion Model of Higher-Order Rotating Polarization Wave Modulation for High Data Rate M2M LPWAN Communication, MDPI Sensors, Vol. 21, Issue 2, pp. 1 - 18, 2021
 28. M. M. Al-Wani, A. Sali, S. D. Awad, A. A. Salah, Z. Ding, N. K. Noordin, S. J. Hashim, Interference Cancellation Via D2D CSI Sharing for MU-MISO-NOMA System with Limited Feedback, IEEE Transactions on Vehicular Technology, Vol. 70, Issue 5, pp. 4569 - 4584, 2021
 29. M. Talebkhah, A. Sali, M. Marjani, M. Gordan, S. J. Hashim, F. Z. Rokhani, IoT and Big Data Applications in Smart Cities: Recent Advances, Challenges, and Critical Issues, IEEE Access, Vol. 9, 2021
 30. Q. Yuan, H. Z. M. Shafri, A. H. Alias, S. J. Hashim, Multiscale Semantic Feature Optimization and Fusion Network for Building Extraction Using High-Resolution Aerial Images and LiDAR Data, MDPI Remote Sensing, Vol. 13, Issue 13, pp. 1 - 23, 2021
 31. M. B. A. Gibril, H. Z. M. Shafri, A. Shanableh, R. Al-Ruzouq, A. Wayayok, S. J. Hashim, Deep Convolutional Neural Network for Large-Scale Date Palm Tree Mapping From UAV-Based Images, MDPI Remote Sensing, Vol. 13, Issue 14, pp. 1 - 24, 2021
 32. M. Sadeque, Z. Yusoff, M. Roslee, S. J. Hashim, A. S. M. Marzuki, Analysis and Design of The Biasing Network for 1 GHz Bandwidth RF Power Amplifier, Indonesian Journal of Electrical Engineering and Computer Science, Vol. 24, Issue 1, pp. 308 - 316, 2021
 33. S. Rahimpour, W. N. Flayyih, N. A. Kamsani, S. J. Hashim, M. R. Stan, F. Z. Rokhani, Low-Power, Highly Reliable Dynamic Thermal Management by Exploiting Approximate Computing, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 28, Issue 10, pp. 2210 - 2222, 2020
 34. O. Messadi, A. Sali, V. Khodamoradi, A. A. Salah, G. Pan, S. J. Hashim, Optimal Relay Selection Scheme with Multiantenna Power Beacon for Wireless-Powered Cooperation Communication Networks, MDPI Sensors, Vol. 21, Issue 1, pp. 1 - 19, 2020
 35. W. N. Flayyih, K. Samsudin, S. J. Hashim, Y. Ismail, F. Z. Rokhani, Multi-bit Error Control Coding with Limited Correction for High-Performance and Energy-Efficient Network on Chip, IET Circuits, Devices & Systems, Vol. 14, Issue 1, pp. 7 - 16, 2020
 36. H. Khalid, S. J. Hashim, S. M. Ahmad, F. Hashim, M. A. Chaudary, Security and Safety of Industrial Cyber-Physical System: Systematic Literature Review, Journal of Archaeology of Egypt / Egyptology, Vol. 17, Issue 9, pp. 1592 - 1620, 2020

37. N. S. R. Hadi, Z. Yusoff, M. G. Sadeque, S. J. Hashim, M. A. Chaudhary, High Gain Over An Octave Bandwidth Class-F RF Power Amplifier Design Using 10W GaN HEM, *Bulletin of Electrical Engineering and Informatics*, Vol. 9, Issue 5, pp. 1899 - 1907, 2020
38. F. A. Rahman, A. E. Gomes, N. A. Kamsani, R. Sidek, S. J. Hashim, F.Z. Rokhani, M. S. Zamali, F. M. Ali, Random Missing Tooth Error Detection in Crankshaft Function of An Engine Control Unit, *Journal of Mechanical Engineering and Sciences*, Vol. 14, Issue 2, pp. 6895 - 6905, 2020
39. A. M. Ali, R. S. A. R. Abdullah, S. J. Hashim, M. F. A. Rasid, A. Sali, A. Ismail, F. Hashim, Experimental Investigation of UWB Signal Interference Effect Between UWB Communication Device and VSAT, *Jurnal Teknologi*, Vol. 82, Issue 1, pp. 115 - 124, 2020
40. K. A. Alezabi, F. Hashim, S. J. Hashim, B. M. Ali, A. Jamalipour, Efficient Authentication and Re-Authentication Protocols for 4G/5G Heterogeneous Networks, *EURASIP Journal on Wireless Communications and Networking*, pp. 1 - 34, 2020
41. M. M. Al-Wani, A. Sali, N. K. Noordin, S. J. Hashim, C. Y. Leow, I. Krikidis, Robust Beamforming and User Clustering for Guaranteed Fairness in Downlink NOMA With Partial Feedback, *IEEE Access*, Vol. 7, 2019
42. F. Imad, S. M. S. Ahmad, S. J. Hashim, K. Samsudin, M. Ali, GPU Accelerated Stereo Vision System to Capture Handwriting, *Information International Journal of Advanced Trends in Computer Science and Engineering*, Vol. 8, Issue 4, pp. 1186 - 1193, 2019
43. Y. W. Lim, S. J. Hashim, N. Kamsani, R. M Sidek, F. Z. Rokhani, Six-Track Multi-Finger Standard Cell Library Design for Near-Threshold Voltage Operation In 130 nm Complementary Metal Oxide Semiconductor Technology, *IET Circuits, Devices & Systems*, Vol. 13, Issue 5, pp. 710 - 716, 2019
44. A. Najih, S. A. R. Al-Haddad, A. R. Ramli, S. J. Hashim, N. Albannai, Matching Fingerprint Images for Biometric Authentication Using Convolutional Neural Networks, *Pertanika Journal of Science and Technology*, Vol. 27, Issue 4, pp. 1723 - 1733, 2019
45. M. Nazrin, S. J. Hashim, F. Z. Rokhani, B. M. Ali, Z. Yusoff, Error Correction and Uncertainty Measurement of Short-Open-Load Calibration Standards on A New Concept of Software Defined Instrumentation for Microwave Network Analysis, *Journal of Measurements in Engineering*, Vol. 7, Issue 3, pp. 107 - 118, 2019
46. Z. Nordin, H. Z. M. Shafri, A. F. Abdullah, S. J. Hashim, The Potential of Building Detection from SAR and LIDAR Using Deep Learning, *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, Vol. 42, pp. 489 - 495, 2019
47. A. Al-Mqdashi, A. Sali, N. K. Noordin, S. J. Hashim, R. Nordin, Efficient Matrix-Based Channel Hopping Schemes for Blind Rendezvous in Distributed Cognitive Radio Networks, *MDPI Sensors*, Vol. 18, Issue 12, pp. 1 - 28, 2018
48. E. H. Salman, N. K. Noordin, S. J. Hashim, F. Hashim, C. K. Ng, An Analysis of Periodogram Based on a Discrete Cosine Transform for Spectrum Sensing, *Wireless Personal Communications*, Vol. 101, pp. 1261 - 1279, 2018

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49. M. Kazemian, P. Varahram, S. J. Hashim, B. M. Ali, R. Farrell, A Low Complexity Peak-To-Average Power Ratio Reduction Scheme Based on Selected Mapping and Radix-II IFFT in OFDM Systems, *Telecommunication Systems*, Vol. 65, pp. 21 - 30, 2018
 50. F. Imad, S. M. S. Ahmad, S. J. Hashim, K. Samsudin, M. Ali, Real-Time Pen Input System for Writing Utilizing Stereo, *Vision Journal of Computers*, Vol. 10, Issue 3, pp. 1000 - 1009, 2018
 51. M. N. M. Yassin, S. J. Hashim, Z. Yusoff, Off-the-Shelf Reconfigurable Software Define Radio Approach for Vector Network, *Journal of Applied Technology and Innovation*, Vol. 2, No. 2, pp. 1 - 8, 2018
 52. B. D. See, S. J. Hashim, H. Z. M. Shafri, S. Azrad, M. R. Hassan, A New Rapid, Low-Cost and GPS-Centric Unmanned Aerial Vehicle Incorporating In-Situ Multispectral Oil Palm Trees Health Detection, *Journal of Agricultural Science and Botany Journal of Agricultural Science and Botany*, Vol. 2, No. 4, pp. 12 - 16, 2018
 53. A. F. Hussein, S. J. Hashim, A. F. A. Aziz, F. Z. Rokhani, W. A. W. Adnan, Performance Evaluation of Time-Frequency Distributions for ECG Signal Analysis, *Journal of Medical Systems*, Vol. 42, No. 15, pp. 1 - 16, 2018
 54. Z. Z. Abidin, S. J. Hashim, Y. W. Lim, C. Zhong, Z. Rosli, Radio Astronomy Interferometer Network Testing for a Malaysia - China Real-Time e-VLBI, *Indian Journal of Physics*, Vol. 92, Issue 1, pp. 1 - 6, 2018
 55. A. F. Hussein, S. J. Hashim, A. F. A. Aziz, F. Z. Rokhani, W.A.W. Adnan, A Real Time ECG Data Compression Scheme for Enhanced Bluetooth Low Energy ECG System Power Consumption, *Journal of Ambient Intelligence and Humanized Computing*, pp. 1 - 14, 2018
 56. A. F. Hussein, S. J. Hashim, A. F. A. Aziz, F. Z. Rokhani, W.A.W Adnan, Automated and High Accuracy Out-of-Hospital Heart Diseases Early Detection System, *International Journal of Cardiology*, 249, S9-S10, 2017
 57. A. Al-Mqdashi, A. Sali, M.J. Abdel-Rahman, N.K. Noordin, S. J. Hashim, Efficient Rendezvous Schemes for Fast-Varying Cognitive Radio Ad-Hoc Networks, *Transactions on Emerging Telecommunications Technologies*, Vol. 28, Issue 12, pp. 1 - 22, 2017
 58. K. Al-Hussaini, B. M. Ali, P. Varahram, S. J. Hashim, Designing and Implementing a Novel Single IFFT Scrambling PAPR Reduction Scheme in OFDM Systems Using FPGA with Hardware Co-simulation, *Wireless Personal Communications*, Vol. 95, Issue 4, pp. 4763 - 4788, 2017
 59. A. Najih, S. A. R. Al-Haddad, A. R. Ramli, S. J. Hashim, M. A. Nematollahi, Digital Image Watermarking Based on Angle Quantization in Discrete Contourlet Transform, *Journal of King Saud University-Computer and Information Sciences*, Vol. 29, Issue 3, pp. 288 - 294, 2017
 60. E. H. Salman, N. K. Noordin, S. J. Hashim, F. Hashim, C. K. Ng, An Overview of Spectrum Sensing Techniques for Cognitive LTE and LTE-A Radio Systems, *Telecommunication Systems*, Vol. 65, Issue 2, pp. 215 - 228, 2017

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61. M. A. Nematollahi, S.A.R. Al-Haddad, A. R. Ramli, A. Kassim, S. J. Hashim, Frequency Domain Processing for Artificial Synthesis of Swiftlet's Sound Waves, *Journal of Telecommunication, Electronic and Computer Engineering*, Vol. 9, issue 1, pp. 89 - 93, 2017
 62. V. Thangasamy, V. Thiruchelvam, S. J. Hashim, N. A. Kamsani, RF CMOS Switch Design Methodologies for Multiband Transceiver Applications, *Pertanika Journal of Science and Technology*, Vol. 25, pp. 29 - 36, 2017
 63. V. Thangasamy, N. A. Kamsani, M.N. Hamidon, S. J. Hashim, Z. Yusoff, Digital-Controlled Multimode Multiband Power Amplifier with Multiple Gated Transistor, *IETE Technical Review*, Vol. 34, Issue 1, pp. 48 - 57, 2017
 64. A. Al-Mqdashi, A. Sali, N.K. Noordin, S. J. Hashim, R. Nordin, Combined Sector and Channel Hopping Schemes for Efficient Rendezvous in Directional Antenna Cognitive Radio Networks, *Wireless Communications and Mobile Computing*, Vol. 2017, 2017
 65. K. Al-Hussaini, B. M. Ali, P. Varahram, S. J. Hashim, R. Farrell, Hardware Co-Simulation for A Low Complexity PAPR Reduction Scheme on An FPGA, *International Journal of Wireless and Mobile Computing*, Vol. 12, Issue 1, pp. 49 - 61, 2017
 66. K. Hussaini, B. M. Ali, P. Varahram, S. Hashim, Designing and Implementing a Novel Single IFFT Scrambling PAPR Reduction Scheme in OFDM Systems Using FPGA with Hardware Co-simulation, *Wireless Personal Communications*, Vol. 95, pp. 4763 - 4788, 2017
 67. M. A. Alomari, K. Samsudin, A.R. Ramli, S. J. Hashim, Efficient Android-based Storage Encryption using Multi-core CPUs, *Security and Communication Networks*, Vol. 9, Issue 18, pp. 567 - 5686, 2016
 68. A. Khmag, A. R. Ramli, S. J. Hashim, S. A. R. Al-Haddad, Additive Noise Reduction In Natural Images Using Second-Generation Wavelet Transform Hidden Markov Models, *IEEJ Transactions on Electrical and Electronic Engineering*, Vol. 11, Issue 3, pp. 339 - 347, 2016
 69. K. A. Alezabi, F. Hashim, S. J. Hashim, B. M. Ali, A. Jamalipour, Authentication Process Enhancements in WiMAX Networks, *Security and Communication Networks*, Vol. 9, Issue 17, pp. 4703 - 4725, 2016
 70. M. Hejazi, S. A. R. Al-Haddad, Y. P. Singh, S. J. Hashim, A. F. A. Aziz, ECG Biometric Authentication based on Non-fiducial Approach using Kernel Methods, *Digital Signal Processing*, Vol. 52, pp. 72 - 86, 2016
 71. K. Al-Hussaini, B. M. Ali, P. Varahram, S. Hashim, R. Farrell, Subblocks Interleaving PTS Technique with Minimum Processing Time for PAPR Reduction in OFDM Systems, *IET Journal of Engineering*, Vol. 2016, Issue 5, pp. 134 - 140, 2016
 72. K. Al-Hussaini, B. M. Ali, P. Varahram, S. Hashim, R. Farrell, A Low Complexity High Efficiency Hybrid Multiplicative-Additive Crest Factor Reduction for OFDM Systems, *Telecommunication System*, Vol. 65, Issue 2, pp. 297 - 307, 2016
 73. K. A. Alezabi, F. Hashim, S. J. Hashim, B. M. Ali, A. Jamalipour, On The Authentication and Re-Authentication Protocols In LTE-WLAN Interworking Architecture, *Transactions on Emerging Telecommunications Technologies*, Wiley, Vol. 28, Issue 4, pp. 1 - 19, 2016

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65. M. S. Hashmi, S. J. Hashim, T. Williams, J. Benedikt, P. J. Tasker, A Broadband Control Electronics for Envelope Load Pull System, International Symposium on Signals, Systems and Electronics (ISSSE), pp. 197 - 200, 2007
66. S. J. Hashim, M. Hashmi, T. Williams, J. Benedikt, P. Tasker, FPGA-Based Digital RF Control for Active Envelope Load-Pull System, IET Postgraduate Workshop on Microelectronics and Embedded Systems, 2006
67. A. I. Khmag, M. B. El-Sadig, A. R. Ramli, S. J. Hashim, Development of Cryptography System for Internet and Email Security, BICET 2005
68. A. I. Khmag, E.A. Babakar, A. Ramli, S. J. Hashim, New Approach of Cryptography Algorithm for E-mail Applications, International Advanced Technology Congress, 2005
69. H. K. Almohair, Abd Rahman Ramli, Shaiful J. Hashim, A. M. Elsadig, A Study of Image Filtering Using Pixel-based Skin Color Detection Techniques, IEEE International Symposium on Information Theory (ISITS), 2004
70. H. K. Almohair, A.R. Ramli, S. J. Hashim, A. M. Elsadig, A Chromatic Model for Detecting Human Skin in Color Images, IEEE 2nd Real-Time Techniques and Applications Symposium (RENTAS), 2004
71. C. M. Chuan, W. C. Seng, Y. H. Seng, C. K. Ng, B. M. Ali, S. J. Hashim, Smart Remotely Access Distributed System, IEEE Student Conference on Research and Development (SCOReD), pp. 360 - 361, 2003
72. S. J. Hashim, K. Samsudin A. R. Ramli, Bridging Digital Divide in the Developing Countries with Linux, 1st Malaysia Open Source LINUX Conference, pp. 1 - 10, 2002
73. S. J. Hashim, K. Jumari, M. Ismail, Computer Network Intrusion Detection Software Development, TENCON Proceedings, Intelligent Systems and Technologies for the New Millennium, pp. 117 - 123, 2000

Invited Academic Talks:

1. S. J. Hashim, Invited Speaker, IEEE Future Networks Initiative Connecting The Unconnected Rapid Reaction Standardization Activity (FNI CTU RRSA) Workshop, IEEE SA Rural Communication Industry Connection Program, Indian Institute of Science, Bangalore, India, 2nd March 2024
2. S. J. Hashim, Invited Keynote Speaker, Micro System Technology Research for 6G Systems and Applications, Center of Excellence Micro System Technology, Universiti Malaysia Perlis, UniMAP, 2023
3. S. J. Hashim, Guidelines on Board of Engineers Malaysia (BEM) ICT Policy, Working Group (WG) on BEM IT Hardware and Policy, BEM IT Workshop, 31st May 2023
4. S. J. Hashim, Keynote Speaker, LPWAN State-of-the-Art: Trends and Future Directions, Webinar Pre ICE3IS, Universitas Muhammadiyah Yogyakarta, Indonesia, 19th August 2021
5. S. J. Hashim, Keynote Speaker, LPWAN State-of-the-Art: Trends and Future Directions, International Conference on Advances in Multi-Disciplinary Sciences and Engineering Research, ICAMSER-2021, 2nd July, 2021
6. S. J. Hashim, Keynote Speaker, Look Ma No Batteries!: Batteryless Wireless System for Identification and Communication, Dependable Wireless Communications (DEWCOM), IEEE 89th Vehicular Technology Conference, Kuala Lumpur, 28th April 2019
7. S. J. Hashim, Keynote Speaker, Smart Drive-Thru and Takeaway Identification System Utilizing Passive Tag with Energy Harvesting, IEEJ Smart Symposium, IITM, Chennai, India, 2019
8. S. J. Hashim, Invited Speaker, IoT in Malaysia: Review, Trends and Future Directions, Manipal Technical University Technical Talk, 9th May 2017
9. S. J. Hashim, Invited Speaker, National Seminar on Future Network for Smart Digital Malaysia, Malaysian Multimedia Commission on Communication (MCMC), 19th September 2017
10. S. J. Hashim, Invited Speaker, Universal Wireless Power Amplifier, IEEJ 6th Smart City Workshop, 8th March 2017
11. S. J. Hashim, Invited Speaker, MyCOMS: A New Telematics for Next Generation Electric Vehicle (EV) Car Network Sharing System, International Symposium for Realization of Ultra-low Carbon Society and Design of Environmental Technology, FAIS Symposium, Kitakyushu Japan, 26th September, 2016
12. S. J. Hashim, Invited Speaker, Automated CVD Detection and Monitoring, IEEJ 4th Smart City Workshop, Universiti Putra Malaysia, 2nd September, 2015

IP (Patent/Copright/ICLD)

Patent:

1. A Media Content Sharing System, PCT/MY2012/000036, patent pending
2. Time-Frequency Physiological Biosignal Analysis, PI2020001606/1, patent pending

Copyright:

1. Intuitive Mobile Communication Systems Using Android Platform (Expressor), copyright granted, 2011.

Integrated Circuit Layout Design (ICLD):

1. Low Power Multi-Lead Portable Electrocardiogram (ECG) Device, copyright granted 2020.
2. IC Design Layout of Multimode Multiband RF Power Amplifier, copyright granted 2016.
3. Digital Cell IP Libraries, copyright granted 2020 (Total 16 copyrights).

i. Sil110nm_t7d_0p4v	ICLD 2020102320
ii. Sil110nm_t9d_0p4v	ICLD 2020102303
iii. Sil110nm_t12d_0p4v	ICLD 2020102314
iv. Sil110nm_t14d_0p4v	ICLD 2020102310
v. Sil110nm_t7d_0p6v	ICLD 2020102317
vi. Sil110nm_t9d_0p6v	ICLD 2020102302
vii. Sil110nm_t12d_0p6v	ICLD 2020102313
viii. Sil110nm_t14d_0p6v	ICLD 2020102309
ix. Sil110nm_t7d_0p8v	ICLD 2020102318
x. Sil110nm_t9d_0p8v	ICLD 2020102316
xi. Sil110nm_t12d_0p8v	ICLD 2020102312
xii. Sil110nm_t14d_0p8v	ICLD 2020102308
xiii. Sil110nm_t7d_1p2v	ICLD 2020102319
xiv. Sil110nm_t9d_1p2v	ICLD 2020102315
xv. Sil110nm_t12d_1p2v	ICLD 2020102311
xvi. Sil110nm_t14d_1p2v	ICLD 2020102307

Research Grants			
Grant Title	Year	Source of Fund	Amount (RM)
Joint SINO-Malaysia Research of Space Remote-Sensing and Radio Astronomical Observation for The Low-Middle Latitude Space Weather Variation (Co-Researcher)	2023 - 2025	The Ministry of Science and Technology of the People's Republic of China and MOSTI	245,400
Reliable, Wideband and Power Efficient Wireless Transmitter and Receiver Prototypes for Internet of Things in Ageing Applications (Lead Researcher)	2023 - 2025	Malaysia - France Matching Grant (MyTIGER 2023) EINSERB-MATMECA INP-BORDEAUX and UPM	25,000
Design and Development of Reliable, High Bandwidth and Power Efficient Wireless Transmitter and Receiver Prototypes for Industrial IoT Applications (Lead Researcher)	2022 - 2024	UPM RUGS (IPS)	20,000
Federated Learning of Spiking Neural Networks for Artificial Intelligence of Things (AIoT) (Co-researcher)	2021 - 2023	MOHE FRGS	87,800
A New Hybrid Online and Offline Multi-factor Cross Domain Authentication for IoT Applications in Automotive Industry (Lead Researcher)	2021 - 2022	Research Fund, Ajman University UAE	28,000
Big Data Quality Model of Imperfect Information to Sustain Decision Making in Malaysia Healthcare Organizations (Co-researcher)	2020 - 2022	FRGS, MOHE	69,100
Auxiliary Envelope Tracking Technique for Efficient RF Power Amplifier of 5G Mobile Applications (Co-researcher)	2019 - 2022	FRGS, MOHE	82,200
New Industrial Internet of Things (IIoT) Multi-factor Authentication Scheme for E-Healthcare System (Lead Researcher)	2019-2020	Research Fund, Ajman University UAE	25,000
Cloud Based Real-Time Cardiogram System for Early Detection of Ischemia for Preventing Myocardial Infarction (Heart Attack) (Lead Researcher)	2017-2019	PRGS, MOHE	100,000
Resource Optimization and Safety Management for One Way EV Car Network Sharing in UPM Campus Network (Lead Researcher)	2016-2018	UPM - Kyutech Japan Matching Grant	54,000
Cloud Based Early Detection of Arrhythmia by ECG Signals Employing Time - Frequency Technique (Lead Researcher)	2016-2017	RUGS, UPM (IPS)	20,000
Investigation and Comparison of Visible, Multi-spectral and Hyper-spectral Imaging on Unmanned Aerial Vehicle (UAV) for Detecting Disease Infection in Oil Palm Trees (Co-researcher)	2016-2017	RUGS, UPM (IPS)	20,000

A Complex Memory Gain Convergence Scheme to Model Nonlinear Systems with Memory Effects (Lead Researcher)	2013 - 2016	FRGS, MOHE	74,000
3-D Relative Positioning System for Multi-Rotorcraft Unmanned Aerial Vehicles (RUAVs) To Achieve Collision Avoidance: By Means of Integration of Infrared, Ultrasonic and Vision Sensors (Co-researcher)	2014 - 2015	RUGS, UPM (IPM)	50,000
Fault Tolerant Control of Unmanned Aerial Vehicles (UAVs) Flying in Swarms (Co-researcher)	2014 - 2015	RUGS, UPM (IPM)	55,800
Mitigating Fiber Non-linearity Using Non-linear Companding Technique in Coherent Optical OFDM (Co-researcher)	2014 - 2015	RUGS, UPM (IPS)	15,000
Hyperspectral Imager onboard Autonomous Airborne Platform for Natural Resource and Environmental Assessment (Co-researcher)	2013 - 2015	RUGS, UPM (IPM)	145,000
A Robust Digital Pre-distortion Scheme with Analog Imperfections Compensator in Wireless Communication Systems (Co-researcher)	2012 - 2014	ERGS, MOHE	66,000
Effectiveness of Industry-Oriented Education (IOE) in Closing Student Competency Gap for High-Pace Electronics Industry (Co-researcher)	2012 - 2014	GIPP, UPM	20,000
Biomimetic Distributed Control for Coordination of Multi-Robot Systems (Co-researcher)	2012 - 2014	RUGS, UPM (IPS)	15,000
Mobility Management for Internet of Things (IoT) using Partial Soft Handover (PSHO) Scheme (Co-researcher)	2012 - 2014	ScienceFund, MOSTI	151,200
Development of Efficient Security Protocol Based on Scalable Key Management Scheme (Co-researcher)	2012 - 2014	ScienceFund, MOSTI	114,630
Design and Implementation of a Pre-distortion Technique To Increase Power Efficiency and Conserve Energy (Co-researcher)	2012 - 2014	RUGS, UPM (IPM)	145,000
SCARECROW: Scalable Automatic Malware Reporting and Detection Utilizing Crowdsourcing (Lead Researcher)	2012-2013	ScienceFund, MOSTI	140,000
Scalable Malware Detection Utilizing Cloud Computing (Lead Researcher)	2011-2013	RUGS, UPM	30,000
Muslim Prayer Time Table Using GPS (Lead Researcher)	2004-2005	New Lecturer Grant Scheme, UPM	10,000

Community or Industry Projects/Grants

• Adaptive Highspeed Controller for Inter Machine Variability in Ultrasonic Wire Bonding Process: Smart Sensors Solution for IIoT, Micron, Lead Researcher	2024 - 2026	RM325,000
• Design and Development of Cross-layer Power Optimized RISC-V CPU Core, Co-researcher	2024 - 2025	RM1,440,780
• Design Automation Tools for IC Design, CREST (UPM - Symmid), Co-researcher	2019 – 2022	RM688,000
• Reliable Wireless Network Systems Using Rotating Polarization Wave Technology, Hitachi R&D Japan, Co-researcher	2018 - 2019	RM60,000
• Smart Drive-Through Takeaway Utilizing Wirelessly Powered Passive Tag Automatic Identification for Vehicle Security and Services with Energy Harvesting Capability, MCMC – MTFSB IoT Grant, Lead Researcher	2017- 2018	RM132,500
• MyCOMS - Electric Car Project, Toyota Auto-Body Malaysia (TABM), Co-researcher	2016 - 2018	RM150,000
• Integrated Hardware-Software Co-design Methodology for Automotive Grade Engine Electronic Control Unit (ECU) System-on-Chip (SoC), CREST (UPM - FSR), Co-researcher	2016 - 2018	RM430,000
• Modelling and Cross-Layer Power Optimization in Standard Cell Library Design for System-on-Chip Application, CREST (UPM - Silterra), Co-researcher	2014 - 2017	RM423,900
• Swiftlets Wave Sound Detection, Recognition and Synthesis through Spectrogram Processing, Ministry of Agriculture (MoA), Co-researcher	2013 - 2015	RM160,400
• Low Power Standard Cell Library Development, Silterra, Co-researcher	2012- 2014	RM60,000
• Very Large Scale Integration (VLSI) and System-on-Chip, Intel, Co-researcher	2011 -2012	RM56,250
• The Effect of Emission from Short Range Devices on Radio Communication Services, MCMC, Co-researcher	2011	RM236,000

Professional Services / Consultation (Journal Reviewer, editorial works, etc.)

No.	Title	Institution	Amount (RM)	Year
1	Assessor to Diploma in Computer Networking	UNITI College	12,000	2012 - 2024
2	IT Committee	Board of Engineers, Malaysia	30,000	2013 - 2024
3	External PhD Examiner (Network Security)	La Trobe University, Australia	3,000	2022
4	Wireless Sensor Network System Consultant of Building Infrastructure Monitoring for Bukit Antarabangsa Apartment and Penang Bridge	Ministry of Communication and Multimedia Malaysia	32,000	2012 - 2014
5	English Language Translator for World Islamic Youth Conference	Universiti Sains Islam Malaysia (USIM)	500	2011
6	Expert Reference for Computer Security Dictionary (Malay - English)	Dewan Bahasa dan Pustaka (DBP)	3,000	2004 - 2005

Teaching Experience

No.	Code and Name of Courses	Semester / Academic Year
1.	Computer System Administration (ECC4209)	Semester 2 (2022/2023)
2.	Operating System (ECC3205)	Semester 2 (2022/2023)
3.	Advanced Computer Networks (ECC5721)	Semester 2 (2022/2023)
3.	Computer Networks (ECC3702)	Semester 1 (2022/2023)
4.	Computer System Administration (ECC4209)	Semester 2 (2021/2022)
5.	Operating System (ECC3205)	Semester 2 (2021/2022)
6.	Advanced Computer Networks (ECC5721)	Semester 2 (2021/2022)
7.	Computer Networks (ECC3702)	Semester 1 (2021/2022)
8.	Operating System (ECC3205)	Semester 2 (2020/2021)
9.	Advanced Computer Networks (ECC5721)	Semester 2 (2020/2021)
10.	Computer Networks (ECC3702)	Semester 1 (2020/2021)
11.	Operating System (ECC3205)	Semester 2 (2019/2020)
12.	Advanced Computer Networks (ECC5721)	Semester 1 (2019/2020)
13.	Computer Networks (ECC3702)	Semester 1 (2019/2020)
14.	Final Year Project B (ECC4999B)	Semester 2 (2018/2019)
15.	Final Year Project A (ECC4999A)	Semester 1 (2018/2019)

16.	Advanced Computer Networks (ECC5721)	Semester 1 (2018/2019)
17.	Computer Networks (ECC3702)	Semester 1 (2018/2019)
18.	Final Year Project B (ECC4999B)	Semester 2 (2017/2018)
19.	Final Year Project A (ECC4999A)	Semester 1 (2017/2018)
20.	Computer Networks (ECC3701)	Semester 1 (2017/2018)
21.	Final Year Project B (ECC4999B)	Semester 2 (2016/2017)
22.	Final Year Project A (ECC4999A)	Semester 1 (2016/2017)
23.	Computer Networks (ECC3701)	Semester 1 (2016/2017)
24.	Operating System (ECC3203)	Semester 2 (2015/2016)
25.	Computer Networks (ECC3701)	Semester 1 (2015/2016)
26.	Seminar (ECC3902)	Semester 2 (2014/2015)
27.	Computer Networks (ECC3701)	Semester 1 (2014/2015)
28.	Seminar (ECC3902)	Semester 2 (2013/2014)
29.	Operating System (ECC3203)	Semester 1 (2013/2014)
30.	Industrial Training (ECC3901)	Semester 1 (2013/2014)
31.	Computer System Administration (ECC4205)	Semester 2 (2012/2013)
32.	Operating System (ECC3203)	Semester 1 (2012/2013)
33.	Industrial Training (ECC3901)	Semester 1 (2012/2013)
34.	Computer System Administration (ECC4205)	Semester 2 (2011/2012)
35.	Computer Networks (ECC3701)	Semester 1 (2011/2012)
36.	Industrial Training (ECC3901)	Semester 1 (2011/2012)
37.	Operating System (ECC3203)	Semester 3 (2010/2011)
38.	Computer System Administration (ECC4205)	Semester 2 (2010/2011)
39.	Computer Networks (ECC3701)	Semester 1 (2010/2011)
40.	Computer System Administration (ECC3701)	Semester 2 (2009/2010)
41.	Operating System (ECC3203)	Semester 1 (2009/2010)
42.	Seminar (ECC3902)	Semester 1 (2009/2010)
43.	Electronics Communication Circuit (KKK3202)	Semester 1 (2004/2005)
44.	Computer System Administration (KKK4401)	Semester 2 (2004/2005)
45.	Multimedia System (KKK4714)	Semester 1 (2003/2004)
46.	Computer Security (KKK4502)	Semester 1 (2003/2004)
47.	Computer System Administration (KKK4401)	Semester 2 (2003/2004)
48.	Computer Networks (KKK3613)	Semester 1 (2002/2003)