



SHARIFAH HAFIZAH SYED ARIFFIN

PROFESSOR



Contact



Faculty of Electrical Engineering,
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Research

Research & Consultation Project

1,043,901.80 USD

Publications

126 journals articles

Intellectual Property

19 copyright, 1 integrated circuit

1 trademark



About Me

I am a educator and researcher in artificial intelligence in communication networks, wired and wireless network performance, Software Defined Network (SDN), handoff and mobility management in ultraDense network, heterogeneous wireless system, vehicular communication, cloud based precision system, ubiquitous computing and IoT.



Education

PhD in Telecommunication

2002 - 2006

Queen Mary University of London, UK

Master in Electrical Engineering

1999 - 2001

Universiti Teknologi Malaysia

BEng (Hons) in Electronic and Communication engineering

1995 - 1997

London Metropolitan University , UK



Course Taught

Post Graduate Courses

1. Software Defined Network
2. Computer and Communication Networks
3. Broadband and Multimedia Network
4. Network Modeling and Performance

Under Graduate Courses

1. Coding of Multimedia Signals
2. Network Programming
3. Data Communication and Switching
4. Professional Engineering Practices
5. Principle of Communications
6. Signal and System
7. Electronic Devices
8. Electrical Technology
9. Electronics
10. Logic Digital
11. Digital Electronics
12. Programming Techniques C

Training courses

1. Advance Internet of Things Module for INTAN
2. Module ALD201 – Essential Quality in Leadership
3. Module 2C Constructive Alignment

Sharifah Hafizah Syed Ariffin

Area of Expertise	Artificial intelligent in communication network, Ubiquitous computing and smart devices, Software Defined Network, Handoff Management, Wireless Sensor Network, IPv6 network and intelligent mobile computing.
Journal Editor/Editorial/ Advisory Panel	<ol style="list-style-type: none"> 1. Editorial Board Member, Elekrika 2001 – 2002 2. Editorial Board Member International Journal of Integrated Engineering (IJIE), 2018
Administrative Post	<ol style="list-style-type: none"> 1. Acting Director, (Center of Academic Leadership, UTMLead) Feb 2021- Dis 2021 2. Deputy Director (Academic Leadership and Professional Development, ALPD) Jun 2016-Dis 2021 3. Undergraduate Manager, Faculty of Electrical Engineering, 2014-2015
International Committee/Panel	<ol style="list-style-type: none"> 1. Organizing Committee, IEEE ATNT Conference 9-10 September 2024 2. Organizing Committee, IEEE ISTT Conference 14-16 November 2022 3. Organizing Committee AIR 2019, International Conference on Artificial Intelligence and Robotics for Industrial Applications. 4. Organizing Committee Signal-Image Technology & Internet-based Systems (SITIS 2010).
National Committee/ Panel	<ol style="list-style-type: none"> 1. External Examiner Undergraduate Academic, (Bachelor on Engineering (Honours) in Computer Network Engineering), Program at Centre of Engineering Computer and Communication, UNIMAP 2017,2019, 2021 2. Interview Committee for Scholarship Program under Ministry of Higher Education, 2017 3. Malaysian National General Standards Committee (ISCG) 2008-2009
University Committee/ Panel/ Administrative po	<ol style="list-style-type: none"> 1. UTM Digital Infuse Research Grant Monitoring Session Panel, 2025 2. Competence Assessment Panel for Professional Management Group Administrators And Executives, Universiti Teknologi Malaysia, 2024 3. Leadership Competence Fellow for The Leadership Module Development Taskforce, Universiti Teknologi Malaysia, 2024 4. Panel member of Professional Development UTM Committee, Sept 2016- Dis 2021.
Fellowship	Leaderships in Innovation Fellowship, Newton- Ungku Omar Fund 2017, MIGHT-Royal Academy of Engineering UK

Research Grants

Project Leader

1. Corrosion Erosion Monitoring Platform based on Wireless Sensor Network and 3D point Clouds from Airborne LiDAR. ASEAN IVO 2024-2026, RM377,000, **Active**.
2. Lightweight Security for Low Power Consumption IoT Devices Based on MQTT Communication Protocol, UTM Matching Grant, RM12,500, 2023-2024. **Completed**
3. "Pelaksanaan Kirkpatrick's Four Levels Evaluation Model Dalam Penilaian Keberkesanan Latihan Anjuran UTMLead", Dana Pembangunan Pengajaran, 2021-2023, RM 15,000, **Completed**
4. "Sensitive Modern Sensors Based on Carbon Nanomaterials for Environmental Monitoring", Research University Grant UTM, July 2018- Jun 2020 (RM125,600) - **Completed**
5. "Context-Aware System for Sungai Layang Reservoir", Research University Grant UTM, April 2016-June 2018 (RM50,000.00)- **Completed**
6. "Water Quality Monitoring System" Dana Pembangunan Prototaip, ICC UTM, RM20,000.-**Completed**
7. "Water Quality Monitoring System Using Wireless Sensor Network Wifi Based for Aquaculture Farming", Prototype Research Grant Scheme (PRGS) 2014-2016 (RM 85,000)- **Completed**
8. "Mobility Management Algorithm Based On Human Behaviour For Microcell Network" Research University Grant UTM, April 2014-June 2016 (RM79,000.00)-**Completed**
9. Mobility management in LTE-advanced with the implementation of proxy mobile IPv6 algorithm, Research University Grant UTM, Dec 2012-Dec 2013 (RM50,000.00)- **Completed**
10. Stream Control Transmission protocol for Mobility management of Multimedia Application in Mobile Wimax, project leader, Research University Grant UTM, 2011-2013 (RM108,000.00)- **Completed**

Publications in Journal (International)

1. K. A. Alaghbari, H. -S. Lim, C. C. Zarakovitis, N. M. A. Latiff, **S. H. S. Ariffin** and S. F. Chien, "Joint Distributed Computation Offloading and Radio Resource Slicing Based on Reinforcement Learning in Vehicular Networks," in *EEE Open Journal of the Communications Society*, vol. 6, pp. 1231-1245, 2025, doi:
2. Mutaz, HH Khairi, Bushra M. ali Abdalla, Mohammad Khalafalla, **Sharifah H. S. Ariffin**, Mosab Hamdan, "Utilizing Extremely Fast Decision tree (EFDT) Algorithm to Categorize Conflict Flow on a Software-Defined network (SDN) Controller", *ETASR Journal*, April 2024.
3. Mohamed Khalafalla Hassan, **Sharifah Hafizah Sayed Ariffin**, Sharifah Kamilah Syed-Yusof, Nurzal Effiyana Ghazali, Mohammed EA Kanona, Khalid S Mohamed, Mutaz HH Khairi, Mosab Hamdan, *DLVisor: Dynamic Learning Hypervisor for Software Defined Network*, *IEEE Access*, August 2023.
4. Mohamed Khalafalla Hassan, **Sharifah Hafizah Sayed Ariffin**, Sharifah Kamila Syed-Yusof, Nurzal Effiyana Ghazali, Kobby Asare Obeng, A Short Review on the Dynamic Slice Management in Software-Defined Network Virtualization, *Engineering, Technology & Applied Science Research*, Vol 13, (6), pp 12074-12079.

5. Favian Dewantaz, Ida Wahidah, Sofia Naning Hertiana, Danu Dwi Sanjoyo, **Sharifah Hafizah Syed Ariffin**, SibProMQTT: Protection of the MQTT Communication Protocol Against Sybil Attacks Applied for IoT Devices, ICICDT 2023,
6. Mohamed Khalafalla Hassan, **Sharifah Hafizah Sayed Ariffin**, Sharifah Kamilah Syed-Yusof, Nurzal Effiyana Ghazali, Mohammed Eltayeb Ahmed Kanona, Mohamed Rava, Smoothing-Aided Long-Short Term Memory Neural Network- Based LTE Network Traffic Forecasting. IJECE, Vol 12, (6), 2022
7. Mohamed Khalafalla Hassan, **Sharifah HS Ariffin**, Mutaz Khairi, Mosab Hamdan, Monia Hamdi, Habib Haman, Suleiman Khan, 'Dynamic Learning Framework for Smooth Aided Machine Learning based Backbone Traffic Forecast', Sensor, MDPI, 2022
8. Mohamed Khalafalla Hassan, **Sharifah HS Ariffin**, N Effiyana Ghazali, Sharifah Kamilah Syed-Yusof, N Effiyana Ghazali, Mohammed EA Kanona, "Analysis of hybrid non-linear autoregressive neural network and local smoothing technique for bandwidth slice forecast", TELKOMNIKA Telecommunication, Computing, Electronics and Control, Vol. 19, No. 4, August 2021, pp. 1078-1089.
9. Mutaz H. H. Khairi, **Sharifah H.S. Ariffin**, Nurul Mu'Azzah A. Latiff, etc., 'Detection and Classification of Conflict Flows in SDN Using Machine Learning Algorithms', IEEE Access, 2021
10. A Hosseingholipourasl, **SHS Ariffin**, Mohammad Taghi Ahmadi, Seyed Saeid Rahinian Koloor, M. Petru & Afiq Hamzah, ' An Analytical Conductance Model for Gas detection Based on a Zigzag Carbon Nanotube Sensor', 20,357, Sensor 2020.
11. A Hosseingholipourasl, **SHS Ariffin**, SSR Koloor, M Petru, A Hamzah, Analytical Prediction of Highly Sensitive CNT-FET Based Sensor Performance for Detection of Gas Molecules, IEEE Access 8, 12655-12661, 2020.
12. Mohd Husaini Mohd Fauzi, Sharifah HS Ariffin, Sharifah Kamilah Syed-Yusof, Muhammad Ariff Baharudin, Controller Selection Module for Switch Migration in Fog Computing Environments, 2024 IEEE International Conference on Advanced Telecommunication and Networking Technologies (ATNT).
13. O. S Salman, A Latiff, N Mu'azzah, **SH Syed Arifin** , Omar Hussein Salman, Early Triage Prediction for Outpatient Care Based on Heterogeneous Medical Data Utilizing Machine Learning", Pertanika Journal of Science & Technology, 2024
14. NHA Wahab, BLY Quan, **SHS Ariffin**, Blockchain in Malaysia: A Comprehensive Review of Decentralized Applications and Trends from Last 1 Decade (2013-2023), 2024 IEEE 14th Symposium on Computer Applications & Industrial Electronics (ISCAIE)
15. **Sharifah HS Ariffin**, Nordurratul Hikmah Mustafa, Favian Dewanta, Ida Wahidah Hamzah, Muhammad Ariff Baharudin, Nur Haliza Abdul Wahab, Hybrid Feature Selection Based Lightweight Network Intrusion Detection System for MQTT Protocol, International Conference on Software, Knowledge, Information Management and Applications (SKIMA), 2023
16. Kobby Asare Obeng, **Sharifah HS Ariffin**, Nor Aishah Muhammad, MEC in IoV: A Review of Resource Issues and Solution Methods, 2023 IEEE Asia Pacific Conference on Wireless and Mobile (APWiMob).

17. Mohd Husaini Mohd Fauzi, **Sharifah Hafizah Syed Ariffin**, Muhammad Ariff Baharudin, Sharifah Kamilah Syed Yusof, Switch Migration Frequency for Load Balancing in Fog Computing Using Machine Learning Algorithm, 2023 IEEE Asia Pacific Conference on Wireless and Mobile (APWiMob).
18. Favian Dewanta, Ida Wahidah, Sofia Naning Hertiana, Danu Dwi Sanjoyo, **Sharifah Hafizah Syed Ariffin**, SibProMQTT: Protection of the MQTT Communication Protocol Against Sybil Attacks Applied for IoT Devices, 2023 International Conference on IC Design and Technology (ICICDT)
19. **Sharifah H. S. Ariffin**, Chong Jia Le and Nur Haliza A. Wahab," Indoor Location Tracking Using Eucliden Distance Estimation (LTS-ED), IEEE ICTC2022, December, Jeju, Korea.
20. Nur Haliza Abdul Wahab, NCJ Syazwani, **Sharifah H. S. Ariffin**, Norrhazirah Sunar, AK Huda, " There Dimension (3D) Indoor Positioning via Recived Signal Strength Indicator in Internet of Things', Proceedings of ICECCE, 2022

Book

1. Malaysia Higher Education Leadership Insights, Editors: Sharifah Hafizah Syed Ariffin and Rose Alinda Alias, UTM Press 2023
2. Wireless Sensor Network: Hybrid Medium Access Control Using Token Approach, Sharifah Hafizah Syed Ariffin and Nor Syahidatul Nadiyah Ismail, UTM Press, 2022
3. Innovative Engineering technologies , Series 1, Editors: Aimi Syamimi Ab Gafar, Nur Haliza Abd Wahab and Sharifah Hafizah Syed Ariffin, UTHM Press, 2022

Supervision

PhD -14 completed, 2 on going
Master by research – 10 completed
Master Project student – 31 completed
Final Year Students – 60 completed

Research Awards

INATEX2021, "Mobile Base Augmented Reality Lecturer Asistant", Awarded Gold.

INACIX2021, "**MARLA**-Mobile Base Augmented Reality Lecturer Asistant", Awarded Silver.

Leaders in Innovation Fellowship, LIF2017, Dec 2017,London, United Kingdom

MTE15, "**Hybrid Medium Access Control For Wireless Multimedia Mote**", Awarded Bronze

Inatex15," **Underwater Acoustic Sensor Network For Environment Monitoring**", Awarded Bronze.

SIIF13, " **Locationa Tracking System For Wireless Pulse Oximeter Modul**", Awarded Bronze.

SIIF13, " **Firefighter Wireless Body Area Network For Safety Monitoring System**", Awarded Bronze.

Intellectual Property File and Copyrights

1. TelG Mote, **Trademark** no 2014001383
2. **Integrated Circuit- IP/LD/2013/4460**-Wireless Sensor Node Platform-TelG
3. **PI2010 00 5403** ' Location Tracking System For Indoor Medical Devices' (**Granted**).

4. **PI 2012 701140** “ Link and queuing Aware Earliest Deadline First Scheduling Algorithm For a Wireless Access Network Adaptive Modulation”,
5. **PI 2009 4948** ‘Health Care Monitoring System With Wireless Sensor Network’
6. **PI2010003416**, A system for Performing Handover Using Location Information’,
7. Copyright, “Software Defined Network Internet of Things (SDN-IoT) Testbed Set Up Manual, IP/CR/02328, 2022
8. Copyright, “Advanced Leadership Module For Future Academic Leaders, IP/CR/02121, 2022
9. Copyright, “UTM Dean's Course Program (UTMDeC), IP/CR/02121, 2022
10. Copyright,” Modified Backtracking Search Algorithm of Wireless Sensor Network: Source Code for Circular Array, IP/CR/03964, 2022
11. Copyright, “Leadership Talent Predictive Analytics Framework For Institutes Of Higher Education, IP/CR/02399, 2021
12. Copyright, “Traffic Disaster Management for Flood Monitoring: Source Code for Slave Node, IP/CR/02848, 2021

**Professional
Qualification and
Activities**

1. Professional Engineer, Board of Engineers Malaysia (Registered No: PE17224)
2. Professional Association Member of The Institute of Electrical and Electronics Engineers (IEEE)-Senior Member # 95246993
3. Professional Association Member of Institute of Engineering and Technology (IET) –Member # 1100848787
4. Member of Board of Engineer Malaysia (BEM)
5. Member of Institute of Engineers Malaysia (MIEM)
6. Master Certificate of Women Leadership, Pusat Kepimpinan Wanita Tun Fatimah Hashim (PKW), Universiti Kebangsaan Malaysia, 2018.
7. Certified InterNetWorks Professional – IPv6 (CIPv6)-2015
8. Certified Fiber Optic Technologist (CFOT)-2015
9. Malaysian National General Standards Committee (ISCG) 2008-2009