Selvakumar Manickam, BSc, MSc, PhD

Associate Professor
Cybersecurity, Internet of Things, Industry 4.0

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Brief Profile

Dr. Selvakumar Manickam is an associate professor specializing in Cybersecurity, Internet of Things, Industry 4.0, Cloud Computing, Big Data, and Machine Learning. He has authored and co-authored close to 200 articles in journals, conference proceedings, and book reviews and graduated 15 PhDs in addition to masters and undergraduate students. He has given several keynote speeches and dozens of invited lectures and workshops at conferences, international universities, and industry. He has given talks and trainings on Internet Security, Internet of Things, Industry 4.0, IPv6, Machine Learning, Software Development, Embedded and OS Kernel technologies at various organizations and seminars. He also lectures in various Computer Science and IT courses, including developing new courseware in tandem with current technology trends. Dr. Selva is involved in MyREN (as Working Group head for Internet Security), IPv6 Forum Global (as co-chair for IPv6 Education), Malaysian Crime Prevention Foundation (MCPF), and various other technical forums locally and globally. Previously, he was with Intel Corporation, Motorola, and few start-ups working in related areas before moving to academia. While building his profile academically, he is still very involved in industrial projects involving SECS/GEM communication protocol, robotic process automation, machine learning, and data analytics using open-source platforms. He also has experience building IoT, embedded, server, mobile (native and hybrid), and web-based applications.

Experience

Associate Professor

National Advanced IPv6 Centre, Universiti Sains Malaysia   **current**

Senior Lecturer

National Advanced IPv6 Centre, Universiti Sains Malaysia   **2014 - 2018**

- Gave lectures in Computer Science courses at undergraduate and postgraduate levels.
- Perform R&D in Cybersecurity, Internet of Things, Cloud Computing, SDN, and Industry 4.0.
- Supervise MSc and Ph.D. students.
- Proofread Theses/Dissertations/Articles/Reports.
- Publish in highly reputed journals and conferences.
- Internal/External examination for thesis/dissertation and external academic programs.
- Review articles for reputed journals and conferences.
- Participate in university committees and activities.

- Provide consultancy for industry projects in Cybersecurity, IoT, and Industry 4.0 projects.
- Work on development projects using python, PHP (Laravel), C, Java, etc., on Linux and React-Native/Flutter (Android & iOS) platforms.

Deputy Director

National Advanced IPv6 Centre, Universiti Sains Malaysia   2009 - 2014

- Managed the centre in planning and implementing programs/projects as per the Director's vision.
- Lectured in Computer Science courses.
- Perform R&D in Internet Security, IPv6, Cloud Computing, Mobile Computing, and Green ICT.
- Supervised MSc and PhD students.
- Involved in centre's administration and operations.
- Participated in university committees and activities.

Lecturer

National Advanced IPv6 Centre, Universiti Sains Malaysia   2008 - 2009

- Lectured in Computer Science courses.
- Perform R&D in the areas of Next Generation Networks (NGN), IPv6, and Mobile
- Technologies.
- Manage the National IPv6 Research Grant and Roadmap.
- Studied the organization's existing business processes and built software to automate some of the processes.
- Carried out various tasks assigned by the Director and Deputy Director.

Senior Lecturer / Corporate Trainer

Penang Skills Development Center (PSDC)   2006 - 2008

- Prepared academic content for new academic and training programs.
- Lectured for MMU IT and PSDC Engineering diploma programs.
- Revised existing syllabus (PSDC diploma programs) and IT corporate training content.
- Provided corporate training to industry players in various areas of IT such as Software Development, Multimedia, Networking, Embedded Automation, etc.
- Studied the organization's existing business processes and built software to automate some of the processes.
- Troubleshot computing and networking problems within the organization.
- Provided consultancy to MIS department.

IT Project Manager

Intel Corporation   2003 - 2006

- Ensured assigned projects (Enterprise Information Systems) are successfully managed and carried through Software Development Life Cycle (SDLC) towards completion and deployment.
- Managed project resources. Coach and lead project team to accomplish tasks within given time with quality.
- Engaged customers/stakeholders to understand business needs and design system architecture to match these needs.
- Provided technical and/or professional consultation, coordination, and leadership to execute day-to-day program/project activities appropriate to program objectives and area of expertise.

Lead Developer / Project Manager

Courser Technology Sdn. Bhd.   2001 - 2003

- Managed and led a team of developers and was part of the development team in designing and developing software solutions, especially on the manufacturing shop-floor.
- Involved in web application and ERP solution consultation and development.
- Carried out business analysis and customer engagement. Some of the customers were Motorola, Intel, Solectron, Smart Modular, QDos, Ichia Rubber Factory, Jabatan Kerja Raya (JKR) Perak, etc.
- Provided value added solution to customers by suggesting additional and alternative approaches to solve the problem.

Senior Research Officer / Project Manager

Universiti Sains Malaysia   1998 - 2001

- Managed research lab (Health Informatics Research Group) in USM, Penang.
- Performed equipment purchases, people management, and research direction setting.
- Managed government-sponsored projects. Delivered POC(Proof-Of-Concept) systems in the area of Knowledge Management and Healthcare ERP Systems.
- Performed research & development in the area of IT and performed pathfinding for new opportunities.
- Created linkages with industry to commercialize research products. Applied research findings to manufacturing environments.
- Mentored and coached Software developers, Research Officers, Postgraduate and Undergraduate students.

Other Experiences

February 2005 to January 2006	**Resident Lecturer** (Part-Time) at Olympia College, Penang.
February 2005 to August 2005	Computing and Information Science (CIS) Department **Coordinator** and **Information Technology (IT) Manager** at Olympia College, Penang.
February 2005 to June 2005	**Director of Software Development** at Professional Web Services. Responsible for managing a team of software developers and web-based software designs. The project involved Flash, Actionscript, PHP, and MySQL.
January 2003 to September 2004	**Resident Lecturer** (Part-Time) at KDU College, Penang.
October 1999 to March 2005	**Resident Lecturer** (Part-Time) at Disted-Stamford College.

Professional Certification

1. Certified IPv6 Network Engineer and Trainer Level 1
2. Certified IPv6 Network Engineer and Trainer Level 2
3. Certified IPv6 Security Engineer and Trainer Level 1
4. Certified TRIZ (Theory of Inventive Problem Solving) Level 1

Education

PhD (Computer Science)

2014
   Universiti Sains Malaysia

MSc (Computer Science)

2002
   Universiti Sains Malaysia

BSc (Computer Science)

1998
   Universiti Sains Malaysia

Teaching

1. Advanced Java Programming
2. Advanced Network Programming
3. Advanced Programming for Computer Games
4. Advanced Web Technologies
5. Artificial Intelligence
6. Business Computing
7. C Programming
8. Computer Architecture and Systems
9. Data Communication & Networking
10. Data Communications & Networks
11. Decision Support System and Intelligent Systems
12. Designing Distributed User Interface
13. Distributed Multimedia Programming
14. Embedded Systems
15. Flash with Actionscript
16. Information Security & Assurance
17. Internet and Web Publishing
18. Internet Governance
19. Internet of Things
20. Internet Security
21. Introduction to Multimedia
22. Introduction to Software Engineering
23. Multimedia Project Management
24. Multimedia System and Communication
25. Network Monitoring & Security
26. Network Programming
27. Network Protocols
28. Object-Oriented Database
29. OpenGL Programming
30. Operating Systems
31. Principles of Multimedia Design
32. Programming Language Concepts & Paradigms
33. System Analysis and Design
34. Telecommunication Principles

Publications

Journals and Proceedings

1. Al-shareeda, Mahmood; A. Alazzawi, Murtadha; A. Anbar, Mohammed; Manickam, Selvakumar; K. Al-Ani, Ahmed; Al-Hiti, Ahmed, Impact of Replay and Impersonation Attack in Vehicular Ad Hoc Networks, international conference on Advanced Computer Applications, 2021 (Accepted)
2. Al-E'mari, Salam; Anbar, Mohammed; Sanjalawe, Yousef; Manickam, Selvakumar; Hasbullah, Iznan, Intrusion Detection Systems Using Blockchain Technology: A Review, Issues and Challenges, Computer Systems Science and Engineering, 2021 (Accepted)
3. Laghari, Shams A.; Manickam, Selvakumar; Karuppayah, Shankar; Al-Ani; Ayman Ul Rehman, Shafiq, A Review on SECS/GEM: A Machine-to-Machine (M2M) Communication Protocol for Industry 4.0, International Journal of Advanced Computer Science and Applications, IJACSA, 2021 (Accepted)
4. Nuiaa, Riyadh; Manickam, Selvakumar; ALsaeedi, Ali, A New Proactive Feature Selection Model PFS Based on the Enhanced Optimization Algorithms to Detect DRDoS Attacks, International Journal of Electrical and Computer Engineering, 2021 (Accepted)
5. Hintaw, Ahmed; Manickam, Selvakumar, MQTT Vulnerabilities, Attack Vectors and Solutions in The Internet Of Things (IoT), IETE Journal of Research, 1-30, 2021
6. Ashraf, Erum; Manickam, Selvakumar; Karuppayah, Shankar, An Intelligent e-Learning Course Recommendation Framework based on Student Learning Style, Journal of Educators Online, 2021 (Accepted)
7. Bdair, Adnan; Abdullah, Rosni; Manickam, Selvakumar; Alyasseri, Zaid, Detection of ICMPv6 DDoS Attacks Using Anomaly Based Intrusion Detection System: A Comprehensive Review, International Journal of Electrical and Computer Engineering, 11(6), 2021
8. Chia Chuan, Wu; Manickam, Selvakumar; Wei Seng, Yeap; Yeap Khai, Wen, Enhance Robotic Process Automation Using a Rule-Based Approach, The 11th International Conference on Robotics, Vision, Signal Processing, and Power Applications (RoViSP), Penang, 2021
9. Nuiaa, Riyadh; Manickam, Selvakumar; ALsaeedi, Ali, Distributed Denial of Service (DDoS) Attack; Distributed Reflection Denial of Service (DRDoS) Attack, International Journal of Electrical and Computer Engineering 11(6), 2021
10. Abdullahi Mohamed, Abdijalil; Manickam, Selvakumar; Karuppayah, Shankar, A Review of Scalability Issues in Software-Defined Exchange Point (SDX) Approaches: State-of-the-Art, IEEE Access, 74499 – 74509, 2021

11. Ashraf, Erum; Manickam, Selvakumar; Karuppayah, Shankar, A COMPREHENSIVE REVIEW OF COURSE RECOMMENDER SYSTEMS IN E-LEARNING., Journal of Educators Online, 18(1), 2021

12. Bdair, Adnan Hasan; Abdullah, Rosni; Manickam, Selvakumar; Al-Ani, Ahmed K, Brief of intrusion detection systems in detecting ICMPv6 attacks, Computational Science and Technology, Springer, Singapore, 199-213, 2020

13. Singh, Parminder; Ul Rehman, Shafiq; Manickam, Selvakumar, Performance Analysis of EMM an EDoS Mitigation Technique in Cloud Computing Environment, Advances in Cyber Security, Springer Singapore, 1132123-137, 2020

14. Albaroodi, Hala A.; Abomaali, Mohammed; Manickam, Selvakumar, Iraqi's Organizations Awareness to Prompt Open Source Cloud Computing (OSCC) in Their Service: A Study, Advances in Cyber Security, Springer Singapore, 1132305-319, 2020

15. Al-Charchafchi, Ahmed; Manickam, Selvakumar; Alqattan, Zakaria N.M., Threats Against Information Privacy and Security in Social Networks: A Review, Advances in Cyber Security, Springer Singapore, 1132358-372, 2020

16. Anbar, Mohammed; Abdullah, Nibras; Manickam, Selvakumar, Advances in Cyber Security, Springer Singapore, 2020

17. Manickam, Selvakumar; Al Mashhadi, Saif, A Brief Review of Blockchain-based DNS Systems, International Journal of Internet Technology and Secured Transactions, Inderscience Publishers, 10(4), 420-432, 2020

18. Omar, Nazrool; Manickam, Selvakumar, SLAAC Attack Detection Mechanism, International Journal of Information Security Science, 9(1), 24-43, 2020

19. Tang, James Seng Leong; Manickam, Selvakumar, Parking Lot Occupancy Detection Using Image Overlay and Intersection Technique with Harris Corner Detector, Journal of Engineering and Technology, UTeM Press, 11(1), 2020

20. Al-shareeda, Mahmood; Anbar, Mohammed; Manickam, Selvakumar; Hasbullah, Iznan, Review of Prevention Schemes for Modification Attack in Vehicular Ad hoc Networks, International Journal of Engineering and Management Research, Vandana Publications, 10(3), 149-152, 2020

21. Al-shareeda, Mahmood; Anbar, Mohammed; Manickam, Selvakumar; Hasbullah, Iznan, Review of Prevention Schemes for Man-In-The-Middle (MITM) Attack in Vehicular Ad hoc Networks, International Journal of Engineering and Management Research, Vandana Publications, 10(3), 153-158, 2020

22. Al-Shareeda, Mahmood; Anbar, Mohammed; H. Hasbullah, Iznan; Manickam, Selvakumar; M. Hanshi, Sabri, Efficient conditional privacy preservation with mutual authentication in vehicular ad hoc networks, IEEE Access, IEEE, 1-12, 2020

23. Al-shareeda, Mahmood; Anbar, Mohammed; A. Alazzawi, Manickam. Selvakumar, Security schemes based conditional privacy-preserving in vehicular ad hoc networks, Indonesian Journal of Electrical Engineering and Computer Science, Institute of Advanced Engineering and Science, 21(1), 2020

24. Al-Shareeda, Mahmood A; Anbar, Mohammed; Manickam, Selvakumar; Yassin, Ali A, Vppcs: Vanet-based privacy-preserving communication scheme, IEEE Access, IEEE, 8150914-150928, 2020

25. Laghari, Shams A.; Manickam, Selvakumar; Karuppayah, Shankar, A Review on SECS/GEM: A Machine-to-Machine (M2M) Communication Protocol for Industry 4.0, International Journal of Electrical and Electronic Engineering & Telecommunications, IJEETC, 9(5), 2020

26. Al-Shareeda, Mahmood A; Anbar, Mohammed; Hasbullah, Iznan Husainy; Manickam, Selvakumar, Survey of authentication and privacy schemes in vehicular ad hoc networks, IEEE Sensors Journal, IEEE, 21(2), 2422-2433, 2020

27. Al-Shareeda, Mahmood; Anbar, Mohammed; A. Alazzawi, Murtadha; Manickam, Selvakumar; Shakir Al-Hiti, Ahmed, LSWBVM: A Lightweight Security Without Using Batch Verification Method Scheme for a Vehicle Ad Hoc Network, IEEE Access, IEEE Xplore, 2020

28. Al-shareeda, Mahmood A.; Anbar, Mohammed; Husainy Hasbullah, Iznan; Manickam, Selvakumar; Abdullah, Nibras, Maad Hamdi, Mustafa, A Survey on Replay Attack Prevention in Vehicular Ad hoc Networks (VANETs), 3rd IEEE International Conference on Information Communication and Signal Processing (ICICSP) 2020, 2020

29. Al-shareeda, M.A.; Anbar, M.; Manickam, S.; Hasbullah, I.H., An Efficient Identity-Based Conditional Privacy-Preserving Authentication Scheme for Secure Communication in a Vehicular Ad Hoc Network, Symmetry, MDPI Publisher, 12(10), 1687, 2020

30. Al-shareeda, Mahmood A; Anbar, Mohammed; Hasbullah, Iznan H; Manickam, Selvakumar; Abdullah, Nibras; Hamdi, Mustafa Maad, Review of Prevention schemes for Replay Attack in Vehicular Ad hoc Networks (VANETs), 2020 IEEE 3rd International Conference on Information Communication and Signal Processing (ICICSP), IEEE, 394-398, 2020

31. Ul Rehman, Shafiq; Singh, Parminder; Manickam, Selvakumar; Praptodiyono, Supriyanto, Towards Sustainable IoT Ecosystem, International Conference on Industrial Electrical and Electronics (The 2nd ICIEE 2020), 2020

32. Al-shareeda, Mahmood A; Anbar, Mohammed; Manickam, Selvakumar; Hasbullah, Iznan H; Abdullah, Nibras; Hamdi, Mustafa Maad; Al-Hiti, Ahmed Shakir, 'NE-CPPA: A new and efficient conditional privacy-preserving authentication scheme for vehicular ad hoc networks (VANETs), Appl. Math, 14(6), 1-10, 2020

33. Manickam, Selvakumar, IoT-Based Soil Condition Monitoring Framework 2020

34. Manickam, Selvakumar, Botnet Monitoring Mechanisms on Peer-to-Peer (P2p) Botnet, Available at SSRN 3713662, 2020

35. Al-E'mari, Salam; Anbar, Mohammed; Sanjalawe, Yousef, Manickam, Selvakumar, A Labeled Transactions-based Dataset on the Ethereum Network, 2nd International Conference on Advances in Cybersecurity (ACeS 2020), 2020

36. Omar, Nazrool; Manickam, Selvakumar, Rule-based SLAAC Attack Detection Mechanism, 2nd International Conference on Advances in Cybersecurity (ACeS 2020), 2020

37. Al-Shareeda, Mahmood; Anbar, Mohammed; Manickam, Selvakumar; H. Hasbullah, Iznan; Khalil, Ayman; A. Alazzawi, Murtadha; Shakir Al-Hiti, Ahmed, Proposed Efficient Conditional Privacy-Preserving Authentication Scheme for V2V and V2I Communications Based on Elliptic Curve Cryptography in Vehicular Ad Hoc Networks, 2nd International Conference on Advances in Cybersecurity (ACeS 2020), 2020

38. Anbar, Mohammed; Sanjalawe, Yousef; Manickam, Selvakumar, A Labeled Transactions-Based Dataset on the Ethereum Network, International Conference on Advances in Cyber Security, Springer, Singapore, 61-79, 2020

39. Manickam, Selvakumar, A Drone-based IoT Approach to Agriculture Automation and Increase Farm Yield, Available at SSRN 3713675, 2020

40. Manickam, Selvakumar, Iraqi's Organizations Awareness to Prompt Open Source Cloud Computing (OSCC) in Their Service: A Study, Advances in Cyber Security: First International Conference, ACeS 2019, Penang, Malaysia, July 30–August 1, 2019, Revised Selected Papers, Springer Nature, 1132305, 2020

41. Manickam, Selvakumar, Performance Analysis of EMM an EDoS Mitigation Technique in Cloud Computing Environment, Advances in Cyber Security: First International Conference, ACeS 2019, Penang, Malaysia, July 30–August 1, 2019, Revised Selected Papers, Springer Nature, 1132123, 2020

42. Bahashwan, Abdullah Ahmed Omar; Manickam, Selvakumar, A brief review of messaging protocol standards for internet of things (IoT), Journal of Cyber Security and Mobility, 1–14-1–14, 2019

43. Al-Ani, Ahmed K; Anbar, Mohammed; Manickam, Selvakumar; Wey, Chong Yung; Leau, Yu-Beng; Al-Ani, Ayman, Detection and defense mechanisms on duplicate address detection process in IPv6 link-local network: A survey on limitations and requirements, Arabian Journal for Science and Engineering, Springer Berlin Heidelberg, 44(4), 3745-3763, 2019

44. Alabsi, Basim Ahmad; Anbar, Mohammed; Manickam, Selvakumar; Elejla, Omar E, DDoS attack aware environment with secure clustering and routing based on RPL protocol operation, IET Circuits, Devices & Systems, IET Digital Library, 13(6), 748-755, 2019

45. Arjuman, Navaneethan C; Manickam, Selvakumar; Karuppayah, Shankar, Lightweight Secure Router Discovery Mechanism To Overcome DOS Attack In IPv6 Network, International Journal of Computing and Digital Systems, University of Bahrain, 8(2), 179-187, 2019

46. Al-Ani, Ahmed K; Anbar, Mohammed; Manickam, Selvakumar; Al-Ani, Ayman, DAD-match; Security technique to prevent denial of service attack on duplicate address detection process in IPv6 link-local network, PloS one, Public Library of Science San Francisco, CA USA, 14(4), e0214518, 2019

47. Singh, Parminder; Rehman, Shafiq Ul; Manickam, Selvakumar, Comparative Analysis of State-of-the-Art EDoS Mitigation Techniques in Cloud Computing Environment, arXiv preprint arXiv:1905.13447, 2019

48. Hintaw J., Ahmed; Manickam, Selvakumar; Karuppayah, Shankar; Faiz Aboalmaaly, Mohammed, A Brief Review on MQTT's Security Issues within the Internet of Things (IoT), Journal of Communications, 14(6), 463-469, 2019

49. Missif, Lial Raja; Hanshi, Sabri M; Karuppayah, Shankar; Manickam, Selvakumar; Labbad, Huda, An Efficient Indoor Event Detection Mechanism Using Wireless Sensor Network, 2019 2nd International Conference on Computer Applications & Information Security (ICCAIS), IEEE, 1-6, 2019

50. Albaroodi, Hala; Abomaali, Mohammed; Ismael, Aseel; Manickam, Selvakumar, Effectiveness of Open Source Cloud Computing in Developing Countries: Empirical Study, Journal of Engineering and Applied Sciences, Medwell Publications, 14(4), 7313-7319, 2019

51. Hameed, Burair Saad; Manickam, Selvakumar; Alieyan, Kamal, INTERNET OF THINGS BOTNET (MIRAI): A SYSTEMATIC REVIEW, Science International, Publications International, 31(4), 607-616, 2019

52. Iradah Mahid, Zaitul; Manickam, Selvakumar; Karuppayah, Shankar, Towards A Hybrid Model of An Automated Deception Detection for Fake News: Intelligent Filtering Based on Network Properties and Behavior, 14th COMPUTER SCIENCES POSTGRADUATE COLLOQUIUM 2018, 2019

53. Anbar, Mohammed; Manickam, Selvakumar; Al Absi, Basim, A Comprehensive Review on Security Attacks in Dynamic Wireless Sensor Networks based on RPL protocol, International Journal of Pure and Applied Mathematics, ACADEMIC PUBLICATIONS, LTD., 118(20), 653-667, 2018

54. Al-Ani, Ahmed; Anbar, Mohammed; Manickam, Selvakumar, Al-Ani, Ayman, DAD-match: Technique to prevent DoS attack on duplicate address detection process in IPv6 link-local network, Journal of Communications, 13(6), 317-324, 2018

55. K. Al-Ani, Ahmed; Anbar, Mohammed; Manickam, Selvakumar; Yu-Beng, Leau, Preventing Denial of Service Attacks on Address Resolution in IPv6 Link-local Network: AR-match Security Technique, 4th.Computational Science and Technology (ICCST), 481305-314, 2018

56. Iradah, Zaitul; Karuppayah, Shankar; Manickam, Selvakumar, Classification of Fake News on Social Media: A Brief Review, International Conference on New Approaches in Information Technology, Applied Sciences and Engineering Research (ITAE-NOV), 2018

57. Iradah, Zaitul; Manickam, Selvakumar; Karuppayah, Shankar, Fake News on Social Media: Brief Review on Detection Techniques, Fourth International Conference On Advances In Computing, Communication & Automation (ICACCA 2018), 2018

58. Manickam, Selvakumar, A Brief Review of Cyber Attacks on Internet of Things and its Mitigation Techniques, International Conference on Innovations in Computer Science and Information Technology, 1-5, 2018

59. Balasubramanian, Nathan; Yung-Wey, Chong; Manickam, Selvakumar, A Survey of Quality of Service Routing Enhancement Techniques in Video Streaming over Software Defined Networks, International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC), 2018

60. Ul Rehman, Shafiq; Manickam, Selvakumar, Improved Mechanism to Prevent Denial of Service Attack in IPv6 Duplicate Address Detection Process, International Journal of Advanced Computer Science and Applications, The Science and Information (SAI) Organization, 8(2), 63-70, 2017

61. Saad, Redhwan MA; Anbar, Mohammed; Manickam, Selvakumar, Rule-based detection technique for ICMPv6 anomalous behaviour, Neural Computing and Applications, Springer Link, 1-10, 2017

62. Leau, Yu-Beng; AbdulRazzaq, Ali; Manickam, Selvakumar; Al-salem, Samer, An Adaptive Assessment and Prediction Mechanism in Network Security Situation

Awareness, Journal of Computer Science, The Science Publisher, 13(5), 114-129, 2017

63. Subramaniam, Jeyaprasadhe; Yean Li, Ho; Manickam, Selvakumar, Intelligent IPv6 Based IoT Network Monitoring and Alerting System on Cooja Framework, The Research in Applied Sciences and Knowledge Engineering International Conference 2017, 2017

64. Arjuman C., Navaneethan; Manickam, Selvakumar; Karuppayah, Shankar; Ul Rehman, shafiq, Review of Security Issues in IPv6 Router Discovery, The 4th International Conference on Mathematical Sciences and Computer Engineering, Science and Knowledge Research Society, 125-131, 2017

65. Karuppayah, Shankar; Böck; Leon; Grube, Tim; Manickam, Selvakumar; Mühlhäuser, Max; Fischer, Matthias, SensorBuster: On Identifying Sensor Nodes in P2P Botnets, 12th International Conference on Availability, Reliability and Security (ARES 2017), 2017

66. Alsaleem, Samer; Manickam, Selvakumar; Anbar, Mohammed; Alnajjar, Ahmed; Saleh, Esraa, A Rule-Based Mechanism for Detecting HTTP Denial of Service Attacks During Flash Crowd Event, Advanced Science Letters, American Scientific Publishers, 23(6), 5423–5425, 2017

67. Aun, Yichiet; Manickam, Selvakumar; Karuppayah, Shankar, A review on features' robustness in high diversity mobile traffic classifications, International journal of communication networks and information security, Kohat University of Science and Technology (KUST), 9(2), 294, 2017

68. Singh Bawa, Parminder; Ul Rehman, Shafiq; Manickam, Selvakumar, Enhanced Mechanism to Detect and Mitigate Economic Denial of Sustainability (EDoS) Attack in Cloud Computing Environments, International Journal of Advanced Computer Science and Applications (IJACSA), The SAI Publisher, 8(9), 51-58, 2017

69. Al-Ani, Ahmed K; Anbar, Mohammed; Manickam, Selvakumar; Al-Ani, Ayman; Leau, Yu-Beng, Proposed DAD-match mechanism for securing duplicate address detection process in IPv6 link-local network based on symmetric-key algorithm, International Conference on Computational Science and Technology, Springer, Singapore, 108-118, 2017

70. Aun, Yichiet; Manickam, Selvakumar; Karuppayah, Shankar, A temporal-aware signature extraction method using sliding-window mechanism for scalable, cost-effective and accurate traffic classification, 2017 7th IEEE International Conference on Control System, Computing and Engineering (ICCSCE), IEEE, 156-161, 2017

71. Al-Ani, Ahmed K; Anbar, Mohammed; Manickam, Selvakumar; Al-Ani, Ayman; Leau, Yu-Beng, Proposed DAD-match security technique based on hash function to secure duplicate address detection in IPv6 link-local network, Proceedings of the 2017 International Conference on Information Technology, 175-179, 2017

72. Saad, Redhwan MA; Anbar, Mohammed; Manickam, Selvakumar; Alomari, Esraa, An intelligent icmpv6 ddos flooding-attack detection framework (v6iids) using back-propagation neural network, IETE Technical Review, Taylor & Francis, 33(3), 244-255, 2016

73. Albaroodi, Hala A.; Manickam, Selvakumar, Awareness of Open Source Cloud Computing (OSCC): A Case Study in Malaysian Organizations, INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND ECONOMICS, 7(1), 2016

74. Leau, Yu-Beng; Manickam, Selvakumar, A novel adaptive grey verhulst model for network security situation prediction, International Journal of Advanced Computer Science & Applications, 1(7), 90-95, 2016

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Modern Cryptographic Solutions for Computer and Cyber Security, IGI Global, 52-79, 2016

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83. Alnajjar, Ahmad Y.; Manickam, Selvakumar; Anbar, Mohammed; Al-saleem, Samer; Elejla, Omar, TrustQR: A New Technique for Detection of Phishing Attacks on QR Code, International Symposium of Information and Internet Technology (SYMINTECH) 2016, 2016

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85. Yi Chiet, Aun; Manickam, Selvakumar; Ramadass, Sures, A Survey on Prominent Application Classification Methods, International Conference on Advances on Mathematics and Computer Engineering (Math-CEng) 2016, 2016

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As Project Leader

Grants and Projects

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9. A Multi Protocol2-Player Mobile Gaming Platform: Converging Bluetooth, Wifi,3g Within IPv4/IPv6 Protocol, Short Term Grant, 15/5/2011 -14/5/2013

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As Project Member

1. International Telecommunication Union (ITU) : A Study On IPv6 Address Allocation And Distribution Strategy, Consultancy Project (International), 15/04/2009 - 30/06/2011

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3. Modeling Of SVC For Variable Bit Video Transmission In Wireless Censor Network, RU Grant   15/7/2012 - 14/7/2015

4. Network Alert Management To Reduce False Positive Of Alerts, RU Grant, 15/8/2011 - 14/9/2014
5. A Comprehensive Botnet Mitigation Ecosystem, RU Grant, 1/2/2012 - 31/1/2015
6. Predictive Analytic Theory Generation And Foundation For A Novel Bio-Inspired Intrusion Prevention And Self-Regeneration System For Cyber Defense, FRGS, 1/1/2013 – 31/11/2015
7. Pro-active Congestion Management Scheme for High Speed Networks, Short Term Grant, 30/12/2012 – 20/11/2013
8. Safety Management System (SMS), MyAerospace.com, Consultancy Project
9. Research and Capacity Building in IPv6 for Malaysia and other Developing Nations
10. Productize a High Definition Telepresence Set-top Box Endpoint System
11. Detecting Sensor Nodes Deployed in P2P Botnets Using Graph-Theoretic Approaches, 1/12/2016-30/11/2018.
12. SecurAsi@ Workshop, Asiaconnect Security Workshop Project, 10/12/2018 – 14/12/2018
13. Distributed and Cloud-based Network Defense System for NRENs, Asi@Connect project.,1/4/2018 – 1/6/2020
14. Mechanism to prevent Denial of Service Attack on Duplicate Address Detection Process in IPv6 Link-Local Network, FRGS Grant, 1/11/2019 – 1/11/2021
15. The Survey And Analysis Of Fish Catchment Result Using Cantrang Technique (Danish Seine) In Probolinggo (Indonesia) Based On Information Technology,Universitas Brawijaya , 01/08/2019-31/07/2020
16. Nahrim-USM Environmental Sensor Systems (NUESS), Consultancy Project, 1/12/2019 - 1/1/2022
17. Development of Information Systems for Fish Catches Data Collection in the Bali Strait that uses Purse Seine, Payang And Gill Net Fishing Gear, Universitas Brawijaya , 01/12/2020-30/11/2021

Undergraduate Supervision

1. Nor Alia Diana Binti Nor Hisham, 2020, Industrial Training/Practicum/Community Case Study, Fake News Detection, Main Supervisor, Completed
2. Madhu Reuban A/l Govindasamy, 2020, Industrial Training/Practicum/Community Case Study, Web and IoT project, Main Supervisor, Completed
3. Agneesh Chelvan A/l Malaichelvan, 2020, Industrial Training/Practicum/Community Case Study, Malware Engineering, Main Supervisor, Completed
4. Sitambaram A/l Muthu, 2020, Industrial Training/Practicum/Community Case Study, Software Development, Main Supervisor, Already Graduated
5. Sofie Yuningrum Safitri, 2020, Industrial Training/Practicum/Community Case Study, IoT Marine, Main Supervisor, Already Graduated
6. Devan Tera Bayu, 2020, Industrial Training/Practicum/Community Case Study, Iot Project, Main Supervisor, Already Graduated
7. Nurhidayah Binti Mohd. Sokri, 2019, Industrial Training/Practicum/Community Case Study, Iot using Raspberry Pi, Main Supervisor, Already Graduated
8. Dineshkumar A/l Partivan, 2019, Final Year Project, A LIGHTWEIGHT CROWD ESTIMATOR USING PASSIVE WIFI PROBING BEACONS, Main Supervisor, Already Graduated
9. Muhammad Harith Bin Zamri, 2019, Final Year Project, ENABLING A SMART OFFICE ENVIRONMENT USING LOW-COST IOT-SENSORS, Main Supervisor, Already Graduated
10. Samaala A/p Sukhmaran, 2019, Final Year Project, AN IOT-BASED OPENING HOURS MANAGER, Main Supervisor, Already Graduated

11. Raja Nurul Izzati Binti Raja Lukman, 2019, Final Year Project, PASSIVE ACTIVITY AND SECURITY MONITORING OF IOT DEVICE COMMUNICATION USING MQTT, Main Supervisor, Already Graduated
12. Yeang Ze An, 2018, Final Year Project, MONDROID: ANDROID OS ACTIVITIES AND COMMUNICATION MONITORING SYSTEM (v1.0), Main Supervisor, Already Graduated
13. Chung Zheng How, 2017, Final Year Project, MONDROID: ANDROID OS ACTIVITIES AND COMMUNICATION MONITORING SYSTEM (v1.0), Main Supervisor, Already Graduated
14. Jeyabarath A/l Jeya Mohan, 2017, Final Year Project, PRONET: EMPLOYEE PRODUCTIVITY PROFILING BASED-ON NETWORK ACTIVITY, Main Supervisor, Already Graduated
15. Nurhidayati Binti Selamat, 2017, Final Year Project, ALIS: ANDROID LOCATION-BASED INFORMATION ASSISTANT, Main Supervisor, Already Graduated
16. Jeyaprasadhe Subramaniam,, 2016, Industrial Training/Practicum/Community Case Study, Contiki IPv6 Node Monitoring, Main Supervisor, Already Graduated
17. Kevin Choong Shek Liang,, 2016, Industrial Training/Practicum/Community Case Study, Web-based Monitoring, Main Supervisor, Already Graduated
18. Pooja Subramaniam,, 2014, Industrial Training/Practicum/Community Case Study, Network Monitoring, Main Supervisor, Already Graduated
19. Swetha Baskaran, 2014, Industrial Training/Practicum/Community Case Study, Network Monitoring, Main Supervisor, Already Graduated
20. Kriskumar A/l Karuppayah,, 2012, Industrial Training/Practicum/Community Case Study, Malware Engineering, Main Supervisor, Already Graduated
21. Arnab Dasgupta, 2012, Industrial Training/Practicum/Community Case Study, iNetmon project (Phishing Database Update and Enterprise Phishing Project), Main Supervisor, Already Graduated
22. Reanawaathi A/p Ramani,, 2013, Industrial Training/Practicum/Community Case Study, IPv6 Networking, Main Supervisor, Already Graduated
23. Ashwini Kumar, 2012, Industrial Training/Practicum/Community Case Study, iNetmon project (Web-based Packet and Connectivity Visualization), Main Supervisor, Already Graduated
24. Sonika Nara, 2012, Industrial Training/Practicum/Community Case Study, iNetmon project (Database Enhancement and Tweaking), Main Supervisor, Already Graduated
25. Malligadevi Neelamegan, 2011, Industrial Training/Practicum/Community Case Study, IPv6 Programming, Main Supervisor, Already Graduated
26. Mam Adou Ndiaye, 2011, Industrial Training/Practicum/Community Case Study, IPv6 Security Course Design, Main Supervisor, Already Graduated
27. Hafsah Binti Salam, 2011, Industrial Training/Practicum/Community Case Study, Web-based software development, Main Supervisor, Already Graduated
28. Nurfaizura Binti Ramli, 2011, Industrial Training/Practicum/Community Case Study, Web-based Software Development project, Main Supervisor, Already Graduated
29. Kumutha A/p Velaichamy, 2011, Final Year Project, Web Security Management System, Main Supervisor, Already Graduated
30. Rajiv Sharma A/l M. Sivanantha Sharma, 2011, Final Year Project, Intelligent Web-based Enterprise Server and Services Monitoring and Alerting Platform., Main Supervisor, Already Graduated
31. Nicolas Vavasseur, 2009, Industrial Training/Practicum/Community Case Study, Packet Capture and Storage Mechanism, Main Supervisor, Completed
32. Favez Guillaume, 2011, Industrial Training/Practicum/Community Case Study, GPS tracking, Main Supervisor, Already Graduated
33. Gny-pant Ho, 2011, Industrial Training/Practicum/Community Case Study, GPS Tracking, Main Supervisor, Already Graduated
34. Ali Zamani, 2011, Industrial Training/Practicum/Community Case Study, Network Monitoring, Main Supervisor, Already Graduated

35. Sivabalan Kandasamy,, 2010, Industrial Training/Practicum/Community Case Study, Media Content Creation, Main Supervisor, Already Graduated

Postgraduate Supervision

As Main Supervisor

1. Hala A. Ibrahim, PhD
   - **Graduated**

   A Design of Cloud Security Model For Openstack Object Storage

2. Syazwina Binti Alias, PhD
   - **Graduated**

   Memory Efficient Buffering Technique for Real-Time Network Traffic Analysis

3. Esraa Saleh Hasoon Alomari, PhD
   - **Graduated**

   Detection of Botnet-Based Hypertext Transfer Protocol Flooding Attacks on Web Servers

4. Navaneethan C. Arjuman, PhD
   - **Passed**

   To Investigate and To Improve the Existing Local Cybercrime Mitigation Framework To Address The Latest Cyber Security Threats In Line With International Framework

5. Samer Abdulsada Mutlag Al-Saleem, PhD
   - **Graduated**

   Investigate the Optimal Number of Cells In The Active Set In Different Scenarios Of User Equipment Movement By Propose New Technique

6. Ahmad Yousef Mohammad Alnajjar, PhD
   - **Graduated**

   Development and Applications Wireless Sensor Networks

7. Redhwan Mohammed Ahmed Saad, PhD
   - **Graduated**

   Internet Routing Protocols Security - Computer Networks Security

8. Parminder Singh Bawa, PhD
   - **Graduated**

   Mitigation of EDoS Attack in Cloud Computing Infrastructure

9. Leau Yu Beng, PhD
   - **Graduated (on Time)**

   Designing A Hybrid Authentication Algorithm of Tracing Eye Movement on Pattern Lock Screen

10. Aun Yichiet, PhD
    - **Graduated**

    An Architecture for Real Time Network Nodes Health Monitoring

11. Shafiq Ul Rehman, PhD
    - **Graduated (on Time)**

    Next Generation Advanced Video Conferencing

12. Aws Naser Jaber, MSc (Research)
    - **Graduated**

    Improving the performance of SIP Authentication based on the Pre-Calculated Look-Up Table

13. Sambath Narayanan, MSc (Research)
    - **Graduated**

    Improvement of Mobile Internet Communication Protocol

14. Punitha Sinappan, MSc (Dissertation)
    - **Graduated**

    An Efficient Mechanism to Offload Automotive Data from Digital Instrument Cluster to a Cloud Server

15. Devamekalai Nagasundaram, MSc (Dissertation)
    - **Graduated**

    Leveraging IPv6 To Identifying and Locating IoT Medical Devices

16.	Firesh Bakhda, MSc (Dissertation) **- Graduated**	Improvement of Packet Capture Mechanism
17.	Amirah Nadrah Binti Ghazali, MSc (Dissertation) **- Graduated**	Wireless Sensor Network Security Monitoring Framework
18.	Zaitul Iradah Binti Mahid, PhD	A Spam Detection Using Fingerprinting (Locality-Sensitive Hash Algorithm) At the Network Layer Over IPv6 Network
19.	Nazrool Bin Omar, PhD **- Graduated**	Designing, Developing and Implementing Graphical Administrator Interface (GAI) Package for Snort In Detecting and Preventing Malicious Attack Within Internal IPv6 Network Segment
20.	Midea Sabah Ali, MSc (Dissertation) **- Graduated**	Design and Development of Cybersecurity Framework to Address the Issue of Internet Safety in Iraq.
21.	Nurul Syahirah Binti Samsur, MSc (Dissertation) **- Graduated**	A Video-Based License Plate Recognition System
22.	Ahmed Hintaw, PhD	Design of A Lightweight Secure MQTT Communication Protocol for Internet of Things
23.	Chong Tian Teck, MSc (Dissertation) **- Graduated**	A Unified Hardware Abstraction Layer Mechanism Modeling for Rapidly Evolving Pre-silicon Hardware Dependent Software Development and Validation
24.	Ashish Jaisan, MSc (Research)	Internet of Things Security based on Blockchain
25.	Erum Ashraf, PhD	Internet of Things Security in Higher Education
26.	Ahmed Mustaffa, MSc (Dissertation) **- Graduated**	Design & Development of Data Privacy Awareness Model
27.	Sheraz Khan, MSc (Dissertation) **- Graduated**	Enhanced MQTT Security Protocol
28.	S.H. Burair, MSc (Dissertation) **- Graduated**	Study of Social Engineering and Malware Distribution
29.	Malathi Santharan, MBA (Dissertation-Open University Malaysia) **- Graduated**	Study on Impact of ICT on the Roles of Human Resource Recruitment
30.	Sababathy Palanisamy, PhD	The Role of LORA Technology Solution to mitigate pollution and flash floods in Urban Areas
31.	Shams Ul Arfeen , PhD	Design of Machine-2-Machine Communication Protocol

32.	James Tang Seng Leong, MSc (Dissertation) - **Graduated**	Image Processing and Automotive Related Infrastructures/Facilities and Security
33.	Abdijalil Abdullahi Mohamed, PhD	Challenges and Opportunities for Implementing internet Exchange Point in Somalia
34.	Wu Chia Chuan, MSc (Dissertation) - **Graduated**	Remote Programmable User Input to Automate The Control Operation For Industrial 4.0 Use Cases.
35.	Hwang Huat Kee, MSc (Dissertation) - **Graduated**	Replay-Attack Detection and Prevention Mechanism In Industry 4.0 Landscape For Secure Secs/Gem Communications
36.	Alwan Ahmed Abdulrahman Alwan, Msc (Dissertation)	IoT Botnet Traffic Detection Algorithm
37.	Shubastran Arumugam, MSc (Dissertation)	A study on the online scam and its impact in Malaysia
38.	Devamekalai Nagasundaram, PhD	Fog Computing Infrastructure for Internet of Things Management in Smart Cities, Main Supervisor
39.	Obeid Mohamad Rabih, Msc (Research)	Design and Development of Secure IoT Messaging and Communication Protocol
40.	Alassaf Nabeel Mustafa Mohammed, PhD	Mobile Agent Communication

As Co-Supervisor

1.	Balasubramanian Nathan, PhD - **Graduated**	Penghalaan Berbantu Kualiti Perkhidmatan untuk Penstriman Video dalam Rangkaian Tertakrif Perisian
2.	Al Absi Basim Ahmad Abed Alhamead, PhD - **Graduated**	Secure-RPL: Approach To Prevent Resource-Based Attacks In Wireless Sensor Networks Using Balanced Clustering
3.	Al Ani Ahmed Khallel Ibrahim, PhD - **Graduated**	Mekanisme Pencegahan Serangan Nafi Khidmat terhadap Proses Pengesanan Alamat Pendua dalam Rangkaian Pautan-Setempat
4.	Lial Raja Abdelkareem Missif, PhD - **Graduated**	Probabilistic Event Detection Mechanism for Indoor Environment Using Wireless Sensor Network
5.	Adnan Hasan Bdair Al Ghuraibawi, PhD	Binding Update Signaling Reduction in NEMO Supported PMIPv6
6.	Mu'ath Mohammad Elayan Maqableh, PhD	Prevent the triple data encryption standard (3DES) from the Man-in-the-Middle-Attack
7.	Mohammad Foad Mohd Abu Khadra, PhD	Traffic from the perspective of a large pure between Ipv6 and ipv4 Based ISP
8.	Sami Ahmad Mosbah Abualhayjaa, PhD	Neural System for Detecting DDoS Attack based on Cloud Computing

9. Asamoah Kwaku Acheampong, MSc (Research)	To be identified
10. Salam Radi Mahmoud Al-E'mari, PhD	Proposed Energy Efficiency Model for Cluster-based Capillary Networks in the Internet of Things
11. Fadi Khalil Ibrahim Abu Zwayed, PhD	Proposed Approach to Secure Cloud Computing Environments from Threats
12. Mahmood Arif Lafta Al Shareeda, PhD	The Approach for Black Hole Attacks in VANET
13. Tan Eng Kee, MSc (Research)	A lightweight messaging middleware for IoT and video streaming applications
14. Al Mashhadi Saif Ahmed Mohammed Jawad, PhD	Design of Cloud Computing Load Balance System Based on SDN Technology
15. Algaragere Shatha Ahmad Ibrahim, PhD	Evaluation of Cyber-Security Effectiveness on E-Learning Applications Mixed Methods Approaches
16. Abdullah Ahmed Omar Bahashwan, PhD	Flow-Based Approach to Detect Abnormality Behavior in ICMPv6 Based DDoS Attacks
17. Arkan Hammoodi Hasan Kabla, PhD	A Proposed Approach for Improving Intrusion Detection System Through Hybrid Machine Learning Techniques
18. Mukhaini Ghada Said Rashid, PhD	Malware Detection Based on Optimized Deep Learning and Multiple Features Selections for Iot Traffic

Academic Recognition and Leadership

External Assessor/Examiner

1. Data Mining and Threat Research Head, International Multilateral Partnership Against Cyber Threats (IMPACT), 01/01/2008-31/12/2008, International Multilateral Partnership Against Cyber Threats (IMPACT)
2. External Assessor, Diploma in Information and Communication System, 12/01/2014-12/01/2016, INTI College, Penang
3. External Assessor, Degree in Computer Science, 12/01/2014-12/01/2016, INTI College, Penang
4. External Assessor, Diploma in Information Technology, 15/10/2018-15/10/2021, INTI International College
5. External Assessor, Bachelor of Science with Honours in Computer Science 3+0 in collaboration with Coventry Universityt, UK., 15/10/2018-15/10/2021, INTI International College Penang
6. External Assessor, Bachelor of Science with Honours in Computing 3+0 in collaboration with Coventry University, UK, 15/10/2018-15/10/2021, INTI International College Penang
7. PSDC External Assessor, 2019, Penang Skills Development Centre)PSDC) (State)
8. Member, PANEL MESYUARAT SEMAK SEMULA KURIKULUM TEKNOLOGI MAKLUMAT DAN KOMUNIKASI (TMK) SEKOLAH RENDAH DAN MENENGAH, 12/03/2020-12/03/2020, Ministry of Education
9. PSDC External Assessor, 2020, Penang Skills Development Centre (PSDC) (State)
10. Technical Working Group Member, Panel Teknikal Teknologi Industri 4.0 Program Model Pengurusan Estet (EMM) 2.0, Pendang., 22/12/2020-31/12/2021, Northern Corridor Implementation Agency
11. External Assessor, Foundation in Information Technology, 01/03/2021-31/03/2024, INTI International College Penang
12. External Assessor, Diploma in Information Technology, 01/03/2021-31/03/2024, INTI International College Penang

13. External Assessor, Diploma in Computer Sciences, 01/03/2021-31/03/2024, INTI International College Penang
14. External Assessor, Bachelor of Science with Honours in Computer Science 3+0 in collaboration with Coventry University, UK, 01/03/2021-31/03/2024, INTI International College Penang
15. External Assessor, Bachelor of Science with Honours in Computing 3+0 in collaboration with Coventry University, UK, 01/03/2021-31/03/2024, INTI International College Penang
16. External Assessor, Certificate of Information Technology, 01/03/2021-01/02/2024, INTI International College Penang

Editorial Board

1. Editorial Board Member, International Journal of Advanced and Applied Sciences (IJAAS) - ISI, - (International)
2. Editorial Board Member, Journal on Computer Networks and Communication (IJCNC), - (International)
3. Editorial Board Member, International Journal of Advanced Trends in Computer Application (IJATCA), - (International)
4. Editorial Board Member, ICSES Journal on Computer Networks and Communications (IJCNC), - (International)
5. Co-Editor, PROCEEDINGS OF THE ASIA-PACIFIC ADVANCED NETWORK, - (International)
6. Associate Editor, International Journal of Innovations in Scientific and Engineering Research., - (International)
7. Editorial Board Member, ALBAHIR - Alkafeel Global Network, - (International)
8. Advisory Board Member, International Research Journal of Multidisciplinary Science & Technology, - (International)
9. Editorial Board, Journal of Disaster Prevention and Reduction, - (International)
10. Editorial Board Member, Al-Bahir Quarterly Refereed Journal for Natural and Engineering Science, - (International)
11. Executive Editor, International Journal of Reconfigurable and Embedded Systems, - (International)

Keynote Speaker

1. 2010, Keynote Speaker, International Conference on Communication Control and Computing Technologies, Syed Ammal Engineering College Ramanathapuram & St. Xavier's Catholic College of Engineering, Kanyakumari, Syed Ammal Engineering College Ramanathapuram & St. Xavier's Catholic College of Engineering, Kanyakumari, International Conference (International)
2. 2013, Keynote Speaker, Energy Efficiency in Home Area Network, KCG College, Chennai, India, IET Chennai, 4th. International Conference on Sustainable Energy and Intelligent System (International)
3. 2013, Keynote Speaker, IPv6: The Next Generation Internet Protocol, KCG College, Chennai, India, The Institution of Engineering and Technology (IET), 4th. International Conference on Sustainable Energy and Intelligent System (International)
4. 2013, Keynote Speaker, Echonet: Future of Home Area Network Standards, KCG College, Chennai, India, The Institution of Engineering and Technology (IET), 4th. International Conference on Sustainable Energy and Intelligent System (International)
5. 2018, Keynote Speaker, Energy Management in Internet of Things (Online Presentation), St. XAVIER's Catholic College of Engineering, Department of Electronics and Communication Engineering, International Conference on Recent Advances in Energy-efficient Computing and Communication (ICRAECC '18) (International)
6. 2018, Keynote Speaker, The emergence of Industry 4.0, NEHRU ARTS AND SCIENCE COLLEGE, Coimbatore, NEHRU ARTS AND SCIENCE COLLEGE,

International Conference on "Innovations in Computer Science and Information Technology" (IC-ICSIT) (International)

7. 2019, Keynote Speaker, Design of Security Mechanism for Connected Factory, Armada Hotel, Kuala Lumpur, Lincoln University College, Kuala Lumpur, Malaysia, International Conference on Technology Innovation and Data Sciences 2019 (International)

8. 2020, Keynote Speaker, IoT Security Design and Implications, Online, Universitas Ahmad Dahlan, 1st Conference on Internet of Things and Embedded Intelligence (CITEI 2020) (International)

Invited Speaker

1. 2008, Invited Speaker, Measurement Session Program @ Mauritius, Africa, Mauritius, Africa, AfriNIC, Measurement Session Program @ Mauritius, Africa (International)

2. 2010, Invited Speaker, Academic Involvement In IPv6, Gold Coast, Australia, Asia Pacific IPv6 Task Force (APIPv6TF), APNIC 30 Meetings (International)

3. 2010, Invited Speaker, Migration to IPv6, Online, International Telecommuication Union and National Advanced IPv6 Centre, ITU Asia-Pacific Centre of Excellence Online Training Course on "Migration to IPv6 (International)

4. 2011, Invited Speaker, IPv6 Security, Berjaya Times Square- Convention Center, Kuala Lumpur., IS-Seraya AVS, Regional IPv6 Conference 2011- NO TURNING BACK (International)

5. 2011, Invited Speaker, Towards Sustainable and Greener ICT, Lao Plaza Hotel, Laos, Economic Research Institute for ASEAN and East Asia, 1st East Asia Summit Energy Efficiency Conference (International)

6. 2012, Invited Speaker, Android Application Development and IPv6, Syed Ammal Engineering College, Ramanathapuram, India, Syed Ammal Engineering College, Five Days International Workshop (International)

7. 2012, Invited Speaker, Web Application Development Training, University of Computer Science, Yangon, UCSY and USM, USM APEX Delivering Excellence Project (International)

8. 2012, Invited Speaker, Android Workshop, University of Computer Science, Yangon, UCSY and USM, USM APEX Delivering Excellence Project (International)

9. 2012, Invited Speaker, IPv6 Workshop, University of Computer Science, Yangon, UCSY and USM, USM APEX Delivering Excellence Project (International)

10. 2012, Invited Speaker, Security Workshop, University of Computer Science, Yangon, UCSY and USM, USM APEX Delivering Excellence Project (International)

11. 2012, Invited Speaker, Open Source Software Development, Keio University, Japan, SOI Asia, SOI Asia Entrepreneurship Research Workshop 2012 (International)

12. 2012, Invited Speaker, Security Workshop, University of Computer Studies, Yangon, University of Computer Studies, Yangon, The 1st Joint Workshop on Internet Security between University of Computer Studies, Yangon, Myanmar and University Sains Malaysia, Malaysia. (International)

13. 2013, Invited Speaker, IPv6 Security Challenges for IPv6 Dual Stack Implementation, International University of Malaya-Wales (IUMW) Kuala Lumpur, USM, IUMW dan UM, International IPv6 Conference (International)

14. 2013, Invited Speaker, Cybersecurity Research at USM, TU Darmstadt, TU Darmstadt, General Talk (International)

15. 2016, Invited Speaker, Cloud Computing and Security Issues, Bina Nusantara University, Bina Nusantara University, International Experience Seminar (International)

16. 2016, Invited Speaker, Internet of Things, MPSP Auditorium, Knowledge Group of Companies, Smart Cities Asia Forum, Penang. (International)

17. 2016, Invited Speaker, Mobile Cloud, Posts and Telecommunications Training Center I & Remote, Posts and Telecommunications Institute of Technology, Vietnam, Mobile Cloud Training (International)

18. 2016, Invited Speaker, Mobile Cloud, Posts and Telecommunications Training Center I & Remote (Different Date), Posts and Telecommunications Institute of Technology, Vietnam, Mobile Cloud Training (International)
19. 2017, Invited Speaker, Algorithm and Programming, Bina Nusantara Universiti, Jakarta, Bina Nusantara Universiti, Gues Lecture (International)
20. 2017, Invited Speaker, Program Design Method, Bina Nusantara University, Jakarta, Bina Nusantara University, Guest Lecture (International)
21. 2019, Invited Speaker, IoT Security: Challenges and possible solutions!, Indian Institute of Technology, India, Society for Electronic Transactions and Security, Talk (International)
22. 2019, Invited Speaker, Certified Internet of Things (IoT) Security Professional (CIoTS), ERNET India, Chennai, ERNET India, Workshop (International)
23. 2019, Invited Speaker, Asi@Connect Project: Botnet Mitigation Best Practices and System Evaluation Workshop, Novotel Manila Araneta Center, Cubao, Quezon City, Philippines, Department of Science and Technology-Advanced Science and Technology Institute (DOST-ASTI), Workshop (International)
24. 2019, Invited Speaker, Brief Overview on Securing OpenStack Cloud, Advanced Science and Technology Institute, Department of Science and Technology, Phillipines, Advanced Science and Technology Institute, Workshop: Distributed and Cloud-based Network Defense System (DCNDS) for National Research and Education Networks (NRENs) (International)
25. 2019, Invited Speaker, Cloud-based Web Security Best Practices and System Configuration Overview, Balicamp, Bali, Indonesia, Universitas Brawijaya, Workshop (International)
26. 2019, Invited Speaker, Social Engineering: Cybercriminal Arsenal, G Hotel, Penang, Malaysian Crime Prevention Foundation (MCPF), International Cybercrime Seminar (International)
27. 2020, Invited Speaker, Online Webinar on Cyber Security, Department of Computer Technology, Sri Krishna Adithya College of Arts & Sciences, Sri Krishna Adithya College of Arts & Sciences, Online Webinar (International)
28. 2020, Invited Speaker, Botnet Mitigation Best Practices and System Evaluation, Institute of Information and Communication Technology (IICT), Bangladesh University of Engineering and Technology (Buet), Dhaka, Workshop (International)
29. 2020, Invited Speaker, Distributed and Cloud-based Network Defense System for NRENs, Online, Universitas Brawijaya, Indonesia, Workshop (International)
30. 2020, Invited Speaker, Introduction to Malware and Botnet, Online, Universitas Brawijaya, Botnet Mitigation Best Practices and System Evaluation Workshop (International)
31. 2020, Invited Speaker, Introduction to Botnet and Malware , Online (https://www.youtube.com/watch?v=iDzDcsGTCYM), Universitas Brawijaya, Indonesia, "Distributed and Cloud-based Network Defense System for NRENs" (DCNDS) project (International)
32. 2020, Invited Speaker, : Impact of Cyberattacks on Businesses and Industries during the Covid-19 Pandemic, Online, WCIT2020 (World Congress on IT), WCIT2020 (World Congress on IT) (International)
33. 2020, Invited Speaker, Introduction to Malware Botnets, Online (Phillipines), Advanced Science and Technology Institute (ASTI), "Distributed and Cloud-based Network Defense System (DCNDS) for National Research and Education Networks (NRENs) (International)
34. 2020, Invited Speaker, Windows malware investigation and removal Demo, Online (Phillipines), Advanced Science and Technology Institute (ASTI), Distributed and Cloud-based Network Defense System (DCNDS) for National Research and Education Networks (NRENs) (International)
35. 2021, Invited Speaker, Deploying the Internet of Things in 5G networks: Security Issues and Challenges, Virtual, World Wireless Research Forum (WWRF), 45th Meeting WWRF Meeting (International)
36. 2021, Invited Speaker, Artificial Intelligence. Machine Learning and Deep Learning, Virtual, KGiSL INSTITUTE OF TECHNOLOGY, INDIA, Webinar (International)

37. 2021, Invited Speaker, Malaysian perspective to DER system security in aligning with CPSF, Virtual (Online), MINISTRY OF ECONOMY, TRADE AND INDUSTRY (METI) AND INDUSTRIAL CYBERSECURITY CENTER OF EXCELLENCE (ICSCOE), Japan-US Industrial Control Systems Cybersecurity Week for FY2020 (International)
38. 2012, Invited Speaker, IPv6 Awareness, Hard Rock Hotel, Batu Feringghi, Penang., Cisco Academy, Cisco Academy Summit (National)
39. 2014, Invited Speaker, Echonet: Research and Development, Universiti Sains Malaysia, NAv6, Education seminar for smart house and innovation (Malaysia) (National)
40. 2014, Invited Speaker, Echonet: Research and Development, Penang, Malaysia, Echonet Malaysia, Echonet Lite Research (National)
41. 2014, Invited Speaker, Cloud Computing Security Issues and Challenges, MYREN, Cyberjaya, MYREN, Seminar (National)
42. 2015, Invited Speaker, ICT Opportunities in ASEAN, the light hotel Penang, Asean Automotives Industry, ASEAN Integration Conference (National)
43. 2016, Invited Speaker, Ethical Hacking using Kali Linux, National Advanced IPv6 Centre, USM, MYREN & USM, 2 Day Introductory Workshop (National)
44. 2016, Invited Speaker, ETHICAL HACKING USING KALI LINUX, Malaysian Research and Education (MyREN) NOC, Cyberjaya, MyREN and USM, COMPLETION REPORT (National)
45. 2016, Invited Speaker, Internet of Things Security, Dewan Za'ba, Ministry of Higher Education, Precint 5, Putrajaya, Malaysia, MyREN, Futurescape 2016 (National)
46. 2017, Invited Speaker, Cybersecurity topics, MYREN NOC, Cyberjaya, Selangor, MYREN, Asi@Connect SecureAsi@ Workshop (National)
47. 2017, Invited Speaker, Ethical Hacking 3-days Hands-on Workshop, Universiti Sains Malaysia, Usains Holding Sdn. Bhd., Ethical Hacking 3-days Hands-on Workshop (National)
48. 2017, Invited Speaker, Role of Internet of Things in Industry 4.0: A Case Study,, Batu Kawan, Penang, HP Malaysia Sdn. Bhd., HP Manufacturing Innovation Week (National)
49. 2018, Invited Speaker, Introduction to Cloud Computing and its Security Issues, Taylor's University, Selangor, Taylor's University, Cloud-based Web Security Best Practices and System Configuration Overview Workshop (National)
50. 2018, Invited Speaker, Python Fundamental and Raspbian (12-13/12/2018), KISMEC, KEdah, KISMEC, Workshop (National)
51. 2018, Invited Speaker, Python Fundamental and Raspbian (17-18/12/2018), KISMEC, Kedah, KISMEC, Workshop (National)
52. 2018, Invited Speaker, Topic on cybersecurity, B.Braun Medical Industries Sdn. Bhd., Security Symposium, Oversea Security Advisory Council (OSAC) America Embassy Kuala Lumpur (National)
53. 2019, Invited Speaker, Demystifying Industry 4.0, Universiti Tunku Abdul Rahman (UTAR), Kampar, Centre for Foundation Studies (Kampar Campus), HashTech Kampar 2020 (National)
54. 2019, Invited Speaker, FASILITATOR BAGI PROGRAM THE INCREDIBLE WAYS WITH IR 4.0 AND AI THROUGH PROGRAMMING – THE BEGINNING (IR 4.0 TRAINING PROGRAM), MAKMAL 2, PUSAT PENGETAHUAN KOMUNIKASI DAN TEKNOLOGI , KOMPLES EUREKA, UNIVERSITI SAINS MALAYSIA, Pusat Transformasi Insan, Workshop (National)
55. 2019, Invited Speaker, Introduction to Malware and Botnet, Eureka Complex, Universiti Sains Malaysia, Penang, National Advanced IPv6 Centre, Botnet Mitigation Best Practices and System Evaluation Workshop (National)
56. 2019, Invited Speaker, Botnet Mitigation Best Practices and Systems Evaluation Workshop, Universiti Sains Malaysia, Universiti Sains Malaysia, Botnet Mitigation Best Practices and Systems Evaluation Workshop (National)
57. 2019, Invited Speaker, Fundamentals of Robotic Process Automation, SSM Building, Kuala Lumpur, Edotco Group, Workshop (National)
58. 2020, Invited Speaker, IPv6 Security Features and issues, Online, ITU MUST IPv6 and IoT Centre of Expertise, Certified IPv6 Fundamental Workshop (National)

59. 2020, Invited Speaker, Introduction to Industry 4.0, UTAR, Kampar, UTAR, HASHTECH KAMPAR 2020 (National)
60. 2020, Invited Speaker, OpenCV System Technical Workshop, Online, CREST, 2020 Precision Farming Bootcamp (National)
61. 2020, Invited Speaker, WEBINAR SIBER SEKURITI UNTUK AMERICA SOCIETY OF INDUSTRIAL SECURITY (ASIS) MALAYSIA, Online, AMERICA SOCIETY OF INDUSTRIAL SECURITY (ASIS) MALAYSIA, Webinar (National)
62. 2013, Invited Speaker, Talk on Android Application, INFORMM, USM, INFORM, Seminar (State)
63. 2015, Invited Speaker, Industry 4.0 and cybersecurity, National Advanced IPv6 Centre, Universiti Sains Malaysia, National Advanced IPv6 Centre, Universiti Sains Malaysia, Special topics seminar (State)
64. 2017, Invited Speaker, Transforming Your Factory into Smart Factory, Auditorium Murah Mohd. Noor, Sains@USM, Bukit Jambul, Usains Holding Sdn. Bhd., Industrie 4.0: Technologies for Future of Manufacturing (State)
65. 2018, Invited Speaker, An Overview of Cloud Computing Security, B. Braun Medical Industries Sdn. Bhd., Penang., Malaysia Crime Prevention Foundation, Security Symposium (State)
66. 2018, Invited Speaker, Talk on Industry 4.0, Jabil Sdn. Bh.d Penang, Jabil Sdn. Bhd., Lunch 'n Learn Initiative (State)
67. 2019, Invited Speaker, Program Motivasi dan Pencegahan Jenayah di Kalangan Pelajar, SMK Bandar Tasek Mutiara, PDRM & MCPF, Program Sekolah (State)
68. 2019, Invited Speaker, Tech Talk, IEM Penang Secretariat, Electronic Engineering Technical Division (eETD), Institute of Engineers Malaysia, Tech Talk (State)
69. 2019, Invited Speaker, Data Science with Python, Western Digital Sdn. Bhd., Western Digital , Workshop (State)
70. 2019, Invited Speaker, Data Analysis with Python, Western Digital, Western Digital, Workshop (State)
71. 2020, Invited Speaker, Cybersecurity Training, Bukit Jambul Golf Club, Malaysian Crime Prevention Foundation (MCPF) Penang, Cybersecurity Training (State)
72. 2020, Invited Speaker, IPv6 in Cybersecurity and Industry 4.0 Awareness, Virtual, Motorola Solutions Malaysia Sdn. Bhd., Online Awareness Talk (State)
73. 2020, Invited Speaker, Google Ninja: Using Google Search and Other Services Effeciently, Bilik Mesyuarat Pusat Perumahan dan Penginapan (HAC), Aras 1, Bangunan H23, Pusat Perumahan dan Penginapan (HAC), Seminar (State)
74. 2020, Invited Speaker, What the heck is IR4.0 and IOT?, Online/USM, School of Computer Sciences, Bengkel Siswa Lestari (State)
75. 2021, Invited Speaker, Introduction to Machine Learning using Python and Tensorflow, Workshop (State)
76. 2021, Invited Speaker, Industry 4.0 & Industry examples Virtual Sharing, Virtual, COLGATE-PALMOLIVE (MALAYSIA} SDN. BHD. , Webinar (National)
77. 2021, Invited Speaker, The Internet Can be Dangerous, How to Stay Safe Online?, Online, Lembaga Pengurus Sekolah, PIBG & Alumni of SJKC Kwang Hwa Sungai Nibong Penang, Webinar (State)

Committee Member (Conference/Seminar/ Workshop)

1. Committee Members(Conference/Seminar/Workshop) , First International Conference on Distributed Frameworks & Applications, 2008 (International)
2. Committee Members(Conference/Seminar/Workshop) , The 15th International Conference on Network-Based Information Systems (NBiS-2012), 2012 (International)
3. Committee Members(Conference/Seminar/Workshop) , International Conference on IEEE RFID Technical and Application, 2013 (International)
4. Committee Members(Conference/Seminar/Workshop) , 2014 IEEE International Conference on Advanced Communication, Control and Computing Technologies, 2014 (International)
5. Committee Members(Conference/Seminar/Workshop) , 12th ACS/IEEE International Conference on Computer Systems and Applications, Mor, 2015 (International)

6. Committee Members(Conference/Seminar/Workshop) , 2nd International Conference on Next Generation (Computing and Communication Te, 2015 (International)
7. Committee Members(Conference/Seminar/Workshop) , International Workshop on Future Information Security, Privacy and Forensics fo, 2015 (International)
8. Committee Members(Conference/Seminar/Workshop) , The 2nd Internatioal Conference on eBusiness, eCommerce, eManagement, eLearning, 2015 (International)
9. Committee Members(Conference/Seminar/Workshop) , International Conference on Computer Applications, India., 2015 (International)
10. Committee Members(Conference/Seminar/Workshop) , International Conf. on Systems,Science,Control,Communication, Engineering, India, 2015 (International)
11. Committee Members(Conference/Seminar/Workshop) , Global Premier International Conference on Cryptography and Security, India., 2015 (International)
12. Committee Members(Conference/Seminar/Workshop) , National Conference on Innovative Research in Engineering & Technology, India., 2015 (International)
13. Committee Members(Conference/Seminar/Workshop) , IEEE International Conference on Advanced Communication, Control & Computing Te, 2015 (International)
14. Committee Members(Conference/Seminar/Workshop) , 4th International Conference on Reliability, Infocom Technologies and Optimization (ICRITO' 2015), 2015 (International)
15. Committee Members(Conference/Seminar/Workshop) , 2nd International Conference on Information Engineering, Management and Security, 2015 (International)
16. Committee Members(Conference/Seminar/Workshop) , International Conference on Automation, Cognitive Science, Optics..., Indonesia, 2015 (International)
17. Committee Members(Conference/Seminar/Workshop) , 2015, ASDF- World Security Summit, India., 2015 (International)
18. Committee Members(Conference/Seminar/Workshop) , International Conference on Innovative trends in Electronics Communication and Applications, 2015 (International)
19. Committee Members(Conference/Seminar/Workshop) , International Conference on Automation, Cognitive Science, Optics, Micro Electro-Mechanical System, and Information Technology (ICACOMIT), 2015 (International)
20. Committee Members(Conference/Seminar/Workshop) , International Conference on Systems, Science, Control, Communication, Engineering and Technology, 2015 (International)
21. Committee Members(Conference/Seminar/Workshop) , International Conference on Emerging Trend in Engineering and Technology, 2016 (International)
22. Committee Members(Conference/Seminar/Workshop) , 2016 International Conference on Advanced Communication, Control & Computing Technologies, 2016 (International)
23. Committee Members(Conference/Seminar/Workshop) , International Conference on Software Networking, 2016 (International)
24. Committee Members(Conference/Seminar/Workshop) , The First International joint Workshops on Fog and Mobile Edge Computing, and on Information Security and Privacy for Mobile Cloud Computing, Web and Internet of Things, 2016 (International)
25. Committee Members(Conference/Seminar/Workshop) , 5th INTERNATIONAL CONFERENCE on Reliability, Infocom Technologies and Optimization (ICRITO 2016), 2016 (International)
26. Committee Members(Conference/Seminar/Workshop) , 2nd International Workshop on Future Information Security, Privacy and Forensics for Complex systems (FISP-2016), 2016 (International)

27. Committee Members(Conference/Seminar/Workshop) , 1st. International Conference on Computer and Electronics Engineering (ICCEE-2016), 2016 (International)
28. Committee Members(Conference/Seminar/Workshop) , International Conference on Cloud of Things and Wearable Technologies 2016, 2016 (International)
29. Committee Members(Conference/Seminar/Workshop) , Fifth International Conference on Cloud Computing and eGovernance 2016 (ICCCEG 2016), 2016 (International)
30. Committee Members(Conference/Seminar/Workshop) , ICSN2016, 2016 (International)
31. Committee Members(Conference/Seminar/Workshop) , International Conference on Cloud Computing and eGovernance, 2016 (International)
32. Committee Members(Conference/Seminar/Workshop) , 2nd International Congress, 2016 (International)
33. Committee Members(Conference/Seminar/Workshop) , International Conference on Inter Disciplinary Research in Engineering and Technology, 2016 (International)
34. Committee Members(Conference/Seminar/Workshop) , International Computer Science and Engineering Society (ICSES), 2016 (International)
35. Committee Members(Conference/Seminar/Workshop) , The International Workshop on Smart Cities Systems Engineering (SCE 2017), 2017 (International)
36. Committee Members(Conference/Seminar/Workshop) , International Conference on Computing and Informatics 2017 (ICOCI2017), 2017 (International)
37. Committee Members(Conference/Seminar/Workshop) , 6th. International Conference on Computing and Informatics 2017 (ICOCI 2017), 2017 (International)
38. Committee Members(Conference/Seminar/Workshop) , The International Workshop on Smart Cities Systems Engineering (SCE 2017), 2017 (International)
39. Committee Members(Conference/Seminar/Workshop) , 2nd International Conference on Computer Science and Computational Intelligence (ICCSCI), 2017 (International)
40. Committee Members(Conference/Seminar/Workshop) , 8th International Conference on Information Technology(ICIT) , 2017 (International)
41. Committee Members(Conference/Seminar/Workshop) , International Symposium on Computer Science and Artificial Intelligence, 2017 (International)
42. Committee Members(Conference/Seminar/Workshop) , International Conference on Inter Disciplinary Research in Engineering and Technology, 2017 (International)
43. Committee Members(Conference/Seminar/Workshop) , International Conference on Advance Computing, Visual Culture and Contemporary Photography (ICACVCCP 2017), 2017 (International)
44. Committee Members(Conference/Seminar/Workshop) , THE 3RD INTERNATIONAL WORKSHOP ON INFORMATION SECURITY AND PRIVACY FOR MOBILE CLOUD COMPUTING, WEB AND INTERNET OF THINGS (ISCW-2018), 2018 (International)
45. Committee Members(Conference/Seminar/Workshop) , ISDO Conference, 2018 (International)
46. Committee Members(Conference/Seminar/Workshop) , 15th ACS/IEEE International Conference on Computer Systems and Applications AICCSA 2018, 2018 (International)
47. Committee Members(Conference/Seminar/Workshop) , 2018 FOURTH INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTING, COMMUNICATION & AUTOMATION (ICACCA), 2018 (International)
48. Committee Members(Conference/Seminar/Workshop) , International Conference on Mobile and Wireless Technology, 2018 (International)
49. Committee Members(Conference/Seminar/Workshop) , International Scientific Development Organization (ISDO), 2018 (International)

50. Committee Members(Conference/Seminar/Workshop) , 9TH INTERNATIONAL CONFERENCE ON RELIABILITY, INFOCOM TECHNOLOGIES AND OPTIMIZATION (ICRITO'2018), 2018 (International)
51. Committee Members(Conference/Seminar/Workshop) , 2019 The 7th International Conference on Information Technology: IoT and Smart City (ICIT 2019), 2019 (International)
52. Committee Members(Conference/Seminar/Workshop) , First International Conference on Emerging Trends in Information Technology, 2019 (International)
53. Committee Members(Conference/Seminar/Workshop) , The 10th International Conference on Information and Communication Systems, 2019 (International)
54. Committee Members(Conference/Seminar/Workshop) , International Conference on Advanced Communication Control and Computing Technologies - ICACCCT' 19, 2019 (International)
55. Committee Members(Conference/Seminar/Workshop) , International Industry-Researchers Conference on Cyber Security 2019, 2019 (International)
56. Committee Members(Conference/Seminar/Workshop) , 2nd. International Conference Innovations in Computer Science and Information Technology, 2019 (International)
57. Committee Members(Conference/Seminar/Workshop) , International Conference on Emerging Trends in Information Technology- 2019, 2019 (International)
58. Committee Members(Conference/Seminar/Workshop) , 2020 1ST INTERNATIONAL CONFERENCE ON CYBER SECURITY, DATA PRIVACY AND CRYPTOLOGY, 2020 (International)
59. Committee Members(Conference/Seminar/Workshop) , The Sixth International Workshop on Mobile Cloud Computing systems, Management, and Security MCSMS-2020, 2020 (International)
60. Committee Members(Conference/Seminar/Workshop) , IEEE 8TH INTERNATIONAL CONFERENCE ON RELIABILITY, INFOCOM TECHNOLOGIES AND OPTIMIZATION (ICRITO'2020), 2020 (International)
61. Committee Members(Conference/Seminar/Workshop) , 2nd International Conference On Advances In Cyber Security (ACeS 2020), 2020 (International)
62. Committee Members(Conference/Seminar/Workshop) , 2020 Sixth International Conference on e-Learning, 2020 (International)
63. Committee Members(Conference/Seminar/Workshop) , 2021 6th International Conference on Cloud Computing and Internet of Things, 2020 (International)
64. Committee Members(Conference/Seminar/Workshop) , EAI MobiQuitous 2020, 2020 (International)
65. Committee Members(Conference/Seminar/Workshop) , 6th. International Conference on Internet of Things, Big Data and Security, 2020 (International)
66. Committee Members(Conference/Seminar/Workshop) , 2nd. International Conference on Innovative Intelligent Industrial Production and Logistics, 2021 (International)
67. Committee Members(Conference/Seminar/Workshop), International Conference On Innovation And Intelligence For Informatics, Computing,And Technologies, 2021 (International)

Service to the University

Administration

1. Programme Manager, Ketua Projek Pembangunan Platform USMEnn (NEURON), 13/10/2020-31/01/2021 (University)
2. Programme Manager, Manager - Cybersecurity Awareness Program (CAP), 18/07/2018-19/06/2020 (University)
3. Deputy Director, Deputy Director, 01/01/2013-01/01/1970 (University)
4. TIMBALAN PENGARAH , PUSAT IPV6 TERMAJU NEGARA (NAV6), 01/01/2013-31/12/2015
5. Deputy Director, Deputy Director, 01/01/2013-31/12/2015 (University)
6. Programme Manager, COLLIGENCE-PADI Project, 01/01/2011-31/12/2011 (University)

7. TIMBALAN PENGARAH , PUSAT IPV6 TERMAJU NEGARA (NAV6), 01/01/2010-31/12/2012
8. Deputy Dean, Timbalan Pengarah, 01/01/2010-31/12/2012
9. Deputy Director, Deputy Director, 01/01/2010-31/12/2012 (University)
10. TIMBALAN PENGARAH , PUSAT IPV6 TERMAJU NEGARA (NAV6), 26/03/2009-31/12/2009
11. Deputy Director, Deputy Director, 26/03/2009-31/12/2009 (University)

University Committee

1. University Committee,Assistant Coordinator, 19/10/2020-31/12/2022 (School)
2. University Committee,Bridge@USM Taskforce Leader, 12/05/2020-12/11/2020 (University)
3. University Committee,Panel Penilai GERAN PENYELIDIKAN KHAS PASCA COVID-19, 24/04/2020-26/04/2020 (University)
4. University Committee,FRGS Grant Evaluation Panel Member, 20/02/2020-30/03/2020 (University)
5. University Committee,Panel Penilai Bagi Penilaian Laporan Akhir Skim Geran Penyelidikan Fundamental (FRGS), 03/02/2020-13/03/2020 (University)
6. University Committee,USMFIT Master Trainer, 01/03/2018-31/12/2018 (University)
7. University Committee,Wakil Tetap Jawatankuasa Pengurusan Penggunaan Tenaga, 15/03/2012-15/03/2013 (University)
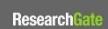
School Committee

1. Chairman of School Committee,International Conference on Advances in Cyber Security, 08/12/2020-09/12/2020 (School)
2. Others,Alumni Ambassador, 15/04/2020-30/07/2020 (University)
3. School Committee,Member, JK Sebutharga PTJ, 01/01/2020-31/12/2020 (School)
4. Chairman of School Committee,International Conference on Advances in Cyber Security, 30/07/2019-01/08/2019 (School)
5. Committee,FRGS Grant Evaluation Panel Member, 14/03/2019-11/04/2019 (University)
6. Committee,Criminology Bachelors Degree Program Study Task Force Member, 01/08/2018-31/07/2019 (University)
7. School Committee,Proposal Review Panel Member, 29/01/2018-29/01/2018 (School)
8. School Committee,Research Review Panel Member, 27/02/2017-27/02/2017 (School)
9. Others,Advisor Persatuan Kebudayaan India, 09/01/2017-09/01/2019 (University)
10. Others,PTJ Alumni Permanent Representative, 01/12/2016-01/01/1970 (School)
11. Committee,Internal Auditor Sekretariat Khidmat Masyarakat Thaipusam, 17/03/2016-17/03/2018 (University)
12. Committee,Auditor, 17/03/2016-17/03/2018 (University)
13. Committee,Thaneer Panthal Indian Staff Association, 01/01/2014-31/12/2014 (University)
14. Others,Advisor Persatuan Kebudayaan India, 01/01/2014-31/12/2014 (University)
15. School Committee,Asset Officer, 10/01/2013-31/12/2013 (University)
16. Chairman of School Committee,NAv6 Research Committee Chairman, 01/03/2012-12/12/2012 (School)
17. Chairman of School Committee,Technical Chairman, 01/01/2010-31/01/2011
18. Committee,Ahli Jawatankuasa Siswazah, 01/01/2010-31/01/2011
19. Committee,Jawatankuasa Pengurusan Pengurusan, 01/01/2010-31/01/2011
20. Others,Viva Chairman, 01/01/1970-01/01/1970 (School)
21. Chairman of School Committee,Chairman of R&D Committee
22. School Committee,Postgraduate Committee

Mass Media

1. New real-time, cross platform intelligent network monitoring system, Asia Research News, 9/8/2007, *https://www.asiaresearchnews.com/html/article.php/aid/2057/cid/2/researc h/technology/universiti_sains_malaysia/new_real-time%2C_cross_platform_intelligent_network_monitoring_system.html*

2. USM to train network engineers at St. Xavier's Catholic College of Engineering, India, Asia Research News, 19/2/2010, *https://www.asiaresearchnews.com/html/announcements.php/aid/4972/cid/ 2/research/people/universiti_sains_malaysia/usm_to_train_network_enginee rs_at_st._xavier%27s_catholic_college_of_engineering%2C_india.html*

3. USM lecturer moots teaching cybersecurity in schools, Malay Mail, 24/9/2019, *https://www.malaymail.com/news/malaysia/2019/09/24/usm-lecturer-moots-teaching-cybersecurity-in-schools/1793777*

4. Tiada Perisian, anti virus mampu cegah jenayah siber, Utusan Malaysia, 24/9/2019, *https://theworldnews.net/my-news/tiada-perisian-anti-virus-mampu-cegah-jenayah-siber*

5. Tiada perisian anti virus boleh cegah jenayah siber, Selangor Kini, 24/9/2019, *https://selangorkini.my/2019/09/tiada-perisian-anti-virus-boleh-cegah-jenayah-siber/*

6. Tiada anti virus dapat banteras penipuan siber – Pakar, Melaka Kini, 24/9/2019, *https://melakakini.my/tiada-anti-virus-dapat-banteras-penipuan-siber-pakar/*

7. No anti-virus can curb cyber fraud, The Leaders Online, 25/9/2019, *https://theleaders-online.com/no-anti-virus-can-curb-cyber-fraud/*

8. Beating cyber criminals at their own game, The Star, 27/9/2019, *https://www.thestar.com.my/metro/metro-news/2019/09/27/beating-cyber-criminals-at-their-own-game*

9. Error on Neurology Registry site exposes patients' personal data, Selangor Kini, 23/10/2019, *https://www.freemalaysiatoday.com/category/nation/2019/10/23/error-on-neurology-registry-site-exposes-patients-personal-data/*

10. WFH: Experts speak about issues to be addressed, New Straits Times, 23/10/2020, *https://www.nst.com.my/news/nation/2020/10/634557/wfh-experts-speak-about-issues-be-addressed*

11. False truth, The Sun Daily, 22/12/2020, *https://www.thesundaily.my/local/false-truth-XD5775660*

12. Brace for possible cyber attack, govt agencies told, New Straits Times, 26/1/2021, *https://www.nst.com.my/news/nation/2021/01/660733/brace-possible-cyber-attack-govt-agencies-told*

13. Personal data law needs to be tightened, The Sun Daily, 5/3/2021, *https://www.thesundaily.my/home/personal-data-law-needs-to-be-tightened-updated-GH7018228*

14. At home with e-banking, The Sun Daily, 23/3/2021, *https://www.thesundaily.my/local/at-home-with-e-banking-HB7399458*

15. Internet users advised to limit what they share, 8/4/2021, *https://www.thesundaily.my/local/internet-users-advised-to-limit-what-they-share-CD7498253*

16. High-tech threat to privacy, 5/5/2021,
    https://www.thesundaily.my/local/high-tech-threat-to-privacy-EJ7821710
17. Cybersecurity threats: 'Malaysia must bolster systems, websites', 11/6/2021,
    https://www.nst.com.my/news/nation/2021/06/697745/cybersecurity-threats-malaysia-must-bolster-systems-websites

Other Information

Linked in.   :   my.linkedin.com/in/selvakumarmanickam/

Google scholar   :   http://scholar.google.com.my/citations?user=9VRnoDEAAAAJ&hl=en

ResearchGate   :   https://www.researchgate.net/profile/Selvakumar_Manickam/

References

Will be provided upon request.

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