



## บันทึกข้อความ

|                                     |            |
|-------------------------------------|------------|
| คณะวิศวกรรมศาสตร์                   |            |
| มหาวิทยาลัยเทคโนโลยีราชมงคลศรีวิชัย |            |
| เลขรับ                              | 3259       |
| วันที่                              | 23-06-2568 |
| เวลา                                | 16.39 น.   |

ส่วนราชการ งานวิเทศสัมพันธ์ สำนักงานอธิการบดี โทรศัพท์ ๐-๗๔๓๑-๗๑๔๒, ๐-๗๔๓๑-๗๑๔๑

ที่ - วันที่ ๒๓ มิถุนายน ๒๕๖๘

เรื่อง ขออนุมัติขอความเห็นในการตอบรับ Visiting Lecturer จาก Universiti Malaysia Perlis ประเทศมาเลเซีย

เรียน คณบดีคณะวิศวกรรมศาสตร์

ด้วยมหาวิทยาลัยเทคโนโลยีราชมงคลศรีวิชัย มีแผนดำเนินงานด้านความร่วมมือทางวิชาการ กับมหาวิทยาลัยในต่างประเทศ เพื่อเสริมสร้างองค์ความรู้ แลกเปลี่ยนประสบการณ์และพัฒนาศักยภาพทางวิชาการ ในระดับนานาชาติ ในโอกาสที่ Universiti Malaysia Perlis (UniMAP) ประเทศมาเลเซีย มีความประสงค์ จะส่ง Visiting Lecturer จำนวน ๑ ท่าน คือ Assoc. Prof. Ts. Dr. Phaklen Ehkan ตำแหน่ง อาจารย์ สังกัด Faculty of Electronic Engineering & Technology, University Malaysia Perlis (UniMAP) เดินทางมาเป็น Visiting Lecturer ณ คณะวิศวกรรมศาสตร์ มหาวิทยาลัยเทคโนโลยีราชมงคลศรีวิชัย สงขลา ในภาคการศึกษาที่ ๑/๒๕๖๘ โดยมีวัตถุประสงค์เพื่อร่วมสอนและแลกเปลี่ยนองค์ความรู้ที่เกี่ยวข้องรายละเอียดตาม Curriculum Vitae ดังแนบ

ในการนี้ งานวิเทศสัมพันธ์ สำนักงานอธิการบดี จึงใคร่ขอความอนุเคราะห์ คณะวิศวกรรมศาสตร์ มหาวิทยาลัยเทคโนโลยีราชมงคลศรีวิชัย สงขลา ดังต่อไปนี้

๑. พิจารณารับ Visiting Lecturer ดังกล่าวเข้าร่วมปฏิบัติงาน และจัดรายวิชาการเรียนการสอน ในภาคการศึกษาที่ ๑/๒๕๖๘ ตามความเหมาะสมและดุลพินิจของทางคณะฯ
๒. พิจารณาการให้ค่าตอบแทนและค่าอื่น ๆ ที่เกี่ยวข้องระหว่างการมาเป็น Visiting Lecturer แก่บุคลากรรายดังกล่าวข้างต้นตามความเหมาะสมและดุลพินิจของทางคณะฯ
๓. งานวิเทศสัมพันธ์ สำนักงานอธิการบดี จะดำเนินการประสานและอำนวยความสะดวก ในเรื่องที่พักของมหาวิทยาลัยฯ แก่บุคลากรรายดังกล่าวตลอดระยะเวลาการมาเป็น Visiting Lecturer ณ คณะวิศวกรรมศาสตร์ มหาวิทยาลัยเทคโนโลยีราชมงคลศรีวิชัย สงขลา

จึงเรียนมาเพื่อโปรดพิจารณา

เรียน คณบดี

-เพื่อโปรดพิจารณา

สำนักงานอธิการบดี ขอความอนุเคราะห์ในการตอบรับ

Visiting Lecture จาก Universiti Malaysia Perlis

ประเทศมาเลเซีย

(ดร.ลมูล เกยูรินทร์)

ผู้ช่วยอธิการบดี

26/6/2568

26 มิ.ย. 68

27 มิ.ย. 2568

-ทราบ และมอบงานวิเทศฯ

-มอบงานวิเทศฯ แจ้ง หน.สาขา (วต. วล. วท. วฟ.)/

หน.หลักสูตร (วต. วล. วท. วฟ.) นัดประชุมปรึกษาหารือ  
ต่อไป

28 มิ.ย. 68

# CURRICULUM VITAE

## PERSONAL BACKGROUND

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**ASSOCIATE PROFESSOR TS. DR. PHAKLEN EHKAN**

Faculty of Electronic Engineering & Technology

University Malaysia Perlis (UniMAP)

Pauh Putra Campus

02600 Arau, Perlis

Malaysia

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plen2309@gmail.com

Hp: +60132601758

## ACADEMIC QUALIFICATIONS

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| <u>University</u>                                               | <u>Qualification</u>                                                                                                                                              | <u>Year</u> |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Universiti Malaysia Perlis (UniMAP) / Birmingham University, UK | Ph.D in Electronic-Computer Engineering<br>( <b>Dissertation Title:</b> Implementation and Analysis of GMM-based Speaker Identification on FPGA)                  | 2012        |
| Universiti Utara Malaysia (UUM)                                 | M.Sc. in Information Technology<br>( <b>Dissertation Title:</b> Inventory Control Management System)                                                              | 2001        |
| Universiti Teknologi Malaysia (UTM)                             | B. Eng. (Hons.) in Electrical Engineering (Electronics)<br>( <b>Project Title:</b> A Minimization of Switching Network using Computer Aided Design (CAD) Program) | 1997        |
|                                                                 | Diploma in Electrical Engineering (Communication)                                                                                                                 | 1991        |

## PROFESSIONAL MEMBERSHIPS

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1. **Chartered Engineer (CEng)**, Engineering Council (EC) - UK (Reg No: 624599)
2. **Professional Member**, British Computer Society (BCS) (Reg. No:990466573)
3. **Graduate Member (Electronic)**, Board of Engineers, Malaysia (BEM) (Reg No: G1137180R)
4. **Professional Membership**, Association Computing Machinery (ACM) (Reg. No: 9501449)
5. **Member**, Institute of Electrical & Electronics Engineers (IEEE) (Reg. No: 90792330)
6. **Member**, International Association of Computer Science, and Information Technology (IACSIT) (Reg. No: 80336808)
7. **Member**, Inst. of Engineering and Technology (IET), UK (Reg. No: 70752940)
8. **Professional Technologist (EE)**, Malaysia Board of Technology (MBOT) (Reg. No.: PT18070879)
9. **Member**, International Association of Engineers (IAENG) (Member number: 245802)

## WORKING EXPERIENCES

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| <b><u>Post</u></b>                                                                  | <b><u>Organisation/ Department</u></b>                                                                               | <b><u>Date/Year</u></b>    |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------|
| Engineering Technician                                                              | National Semiconductor (M) Sdn. Bhd.<br>Bayan Lepas Free Trade Zone,<br>11900 Bayan Lepas, Penang                    | 1991 - 1993                |
| Senior Technician                                                                   | Motorola Electronics (M) Sdn. Bhd.<br>Bayan Lepas Free Trade Zone,<br>11900 Bayan Lepas, Penang                      | 1993 -1995                 |
| Field Service Engineer                                                              | Schlumberger M&S Bhd.<br><i>(Based in Intel Penang)</i><br>Bayan Lepas Free Trade Zone,<br>11900 Bayan Lepas, Penang | 1997 - 1999                |
| Test Engineer                                                                       | AIC Semiconductor Sdn. Bhd.<br>Kulim Hi-Tech Park,<br>09000 Kulim, Kedah                                             | 1999 – 2000                |
| Senior Test Engineer                                                                | Celestica (M) Sdn Bhd<br>Kulim Hi-Tech Park,<br>09000 Kulim, Kedah                                                   | 2001 - 2002                |
| Lecturer                                                                            | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 01/01/2003 –<br>31/03/2007 |
| Program Chairperson<br>(Computer Engineering)                                       | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 01/03/2003 –<br>28/02/2005 |
| Member of Industrial<br>Networking Team for<br>Engineering & Management<br>(InTeam) | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 29/07/2004 –<br>29/07/2005 |
| Deputy Dean (Academic)                                                              | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 01/03/2005 –<br>30/09/2006 |
| Senior Lecturer                                                                     | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 01/04/2007 –<br>30/11/2017 |
| Program Chairperson<br>(Postgraduate Studies)                                       | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 01/03/2013 –<br>28/02/2017 |
| Coordinator<br>(Embedded, Network and<br>Advanced Computing<br>Research Cluster)    | Universiti Malaysia Perlis,<br>(School of Computer and Communication<br>Engineering)                                 | 2017 - 2020                |
| Head,<br>High Performance<br>Computing Cluster                                      | Advanced Computing Centre of<br>Excellence (ADVCOMP), UniMAP                                                         | 2020 - 2022                |
| Associate Professor                                                                 | Universiti Malaysia Perlis,<br>(Faculty of Electronic Engineering &<br>Technology)                                   | 01/12/2017 -<br>present    |

## RESEARCH INTEREST

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Reconfigurable Hardware, Embedded System, Image Processing, Artificial Intelligence, Internet of Things (IoT).

## RESEARCH GRANTS

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1. A Comparative Analysis of Clock Tree Synthesis Convergence Techniques in Modern VLSI Design, Industry Grant, **RM18,000**, (Intel Technology (M) Penang), (2024 – 2025)
2. IoT-based Smart Hotel Management Facility System, UniMAP-Private Matching Fund, **RM40,000**, (RnK Jaya Trading), (2024-2026).
3. Modelling Artificial Intelligence-based Machine Learning for Monitoring Performance of PV Solar System, Industry Grant, **RM10,000**, (NEFINCO (M) Sdn Bhd) (2022-2023).
4. Network-on-Chip Architecture Investigation for Efficient Training of Deep-Learning on Hybrid Computing Systems, FRGS Grant, **RM124,000** (Sept 2022 – Aug 2025).
5. Formulation of Image Processing Technique on FPGA using 3D Pipelining Architecture for High-Speed Tuberculosis Detection, FRGS Grant, **RM107,500**, (Sept 2021 – Mac 2025).
6. Perceptual based features for Blind Image Quality Assessment using Extreme Learning Machine for Biodiversity monitoring, FRGS Grant, **RM54,700**, Phaklen Ehkan, Ku Nurul Fazira Ku Azir, Muhammad Imran Ahmad, Ruzelita Ngadiran (Nov 2020 – Apr 2024).
7. IoT Based System for Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS) Digital Campus Implementation, T-ARGS, **RM51,500**, (Mar 2019 – Mar 2020).
8. Accelerated Assistive Activity Detection Algorithm with Wearable Sensors by Enabling the Internet of Things for Physiotherapy Treatment of Cerebral Palsy. FRGS Grant, **RM110,100**, (Oct 2018 – Sept 2021).
9. Lifting wavelet for perceptual analysis in Image Quality Assessment for watermarking evaluation, FRGS Grant, **RM 46,800**, (Aug 2017 – Feb 2020).
10. A New Novel Iterative Computational Technique for Performance Evaluation of Network-On-Chip (NoC). FRGS Grant, **RM76,000**, (Nov 2014 – May 2018).
11. Fundamental Study on Multicore CPU Throttling Mechanism for GNU/Linux Operating System for Improve Performance and Energy Consumption. FRGS Grant, **RM78,000**, (Jul 2014 – Jun 2016).
12. A Fundamental Study in New Partition-Lightpath Algorithm Based on Hibernation Mode for Green Optical Networks. FRGS Grant, **RM65,000**, (Dec 2013 – Dec 2015).
13. A New Retargetable Parallel Programming framework for Low-Power Heterogeneous Multi-Processor System-on-Chip (MPSoC). RAGS Grant, **RM51,500**, (Sept 2013 – Feb 2016).
14. A Fundamental Study for Optimizing Speaker Recognition Algorithm System on the FPGA-based Embedded Platform. FRGS Grant, **RM44,000**, (Jan 2011 – Jul 2013).
15. Developing a New Architecture for Fuzzy Logic-based Controllers by Using Standard FPGA Development Board, FRGS Grant, **RM 80,000**, Rafikha Aliana A Raof, Phaklen Ehkan, Mohd. Najmuddin Mohd Hassan, Ahmad Nasir Che Rosli, Mohammad Nazri Md. Noor, Razaidi Hussin (Jan 2007 – Dec 2008).
16. Optical Character Recognition by Laboratory Virtual Instrument Engineering Workbench (LabVIEW) platform. University STG, **RM19,250**, Phaklen Ehkan (Oct 2003 – Apr 2005).

## PUBLICATIONS

Dr. Phaklen has authored and co-authored more than **120** technical papers till now, including Journals, Book Chapters/Books, and Conference Proceedings which are indexed by Scopus.

|                       | Citation | H-Index | Link                                                                                                                                            |
|-----------------------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Scopus</b>         | 726      | 12      | <a href="https://www.scopus.com/authid/detail.uri?authorId=37005452000">https://www.scopus.com/authid/detail.uri?authorId=37005452000</a>       |
| <b>Google Scholar</b> | 1235     | 16      | <a href="https://scholar.google.com/citations?user=sb8o85k26kYC&amp;hl=en">https://scholar.google.com/citations?user=sb8o85k26kYC&amp;hl=en</a> |
| <b>ResearchGate</b>   | 595      | 11      | <a href="https://www.researchgate.net/profile/Phaklen-Ehkan">https://www.researchgate.net/profile/Phaklen-Ehkan</a>                             |

*Updated: 29May2025*

### ARTICLE PUBLICATIONS:

#### 1) JOURNALS (2020 – NOW)

1. Nutveesa Verak, Phaklen Ehkan, Ruzelita Ngadiran, Suwimol Jungjit, Siraya Sitthisarn, Mohd Nazri Mohd Warip, Mohd Zaizu Ilyas, Fazrul Faiz Zakaria “Deep Learning-based Blind Image Quality Assessment using Extreme Learning Machine”, *Pena Journal of Computer Science and Informatics*, 1(1) pp 1-12, 2025.
2. Nutveesa Verak, Phaklen Ehkan, Ruzelita Ngadiran, Suwimol Jungjit,...“Enhanced Perceptual Feature Extraction for Blind Image Quality Assessment using Extreme Learning Machine”, *Journal of Advanced Research in Applied Sciences and Engineering Technology*, pp. 301-315, 2025.
3. V Vijayarveswari, N Mahrom, RAA Raof, LAEK Phak,..., “Development of Statistically Modelled Feature Selection Method for Microwave Breast Cancer Detection”, *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 50(1), pp. 250-263, 2025.
4. Juliandi Siregar, Hajar Mawaddah, Khairiah Khairiah, Halimah Berliani, Lia Afriyanti Nasution, Nur Amelia Putri, Derlina Derlina, Rafaza Pramudito, Phaklen Ehkan, “Exploration of the use of Phet Simulation on Newton’s Law Materials to Improve Student Physics Learning Outcomes”, *Journal of Eduscience*, 11(3), pp 739-746, 2024.
5. Waleed Khalid Ahmed, MNM Warip, Mohamed Elshaikh Elobaid Said Ahmed, Phaklen Ehkan, “Improved MPR Selection Algorithm-Based WS-OLSR Routing Protocol”, *International Journal of Computer Networks & Communications (IJCNC)*, 16(3), pp. 1-16, 2024.
6. Waleed Khalid Ahmed, Mohd Nazri bin Mohd Warip, Mohamed Elshaikh Elobaid Said Ahmed, Phaklen Ehkan, “Multipoint Relay Path for Efficient Topology Maintenance Algorithm in Optimized Link State Routing-Based for VANET”, *International Journal of Computer Networks & Communications (IJCNC)*, 16(1), pp.125-140, 2024.
7. Virakwan Hai Kelian, Mohd Nazri Mohd Warip, R Badlishah Ahmad, Phaklen Ehkan,...“An Efficacy of Multi-Controller Model Deployment Strategy in Software-Defined Networks”, *Journal of Advanced Research in Applied Sciences and Engineering Technology*, pp. 146-156, 2024.

8. RM Abdullah, SAH Alazawi, P Ehkan, "SAS-HRM: Secure Authentication System for Human Resource Management", *Al-Mustansiriyah Journal of Science* 34 (3), pp. 64-71, 2023.
9. Suwimol Jungjit, P.Ehkan, Amonrat Prasitsupparote, "Enhancing Mobile Risk Area Notifications via Social Media Data: A Case Study of Three Southern Border Provinces in Thailand", *International Journal of Applied Computer Technology and Information Systems*, 13(1), pp. 11-16, 2023.
10. NA Ali Ikhwan, Rafikha Aliana A. Raof, Phaklen Ehkan, Yasmin Yacob, "Implementation of image file security using the advanced encryption standard method", *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 2023.
11. AKM Yusoff, RAA Raof, N Mahrom, SSM Noor, FF Zakaria, P Len, "Enhancement and Segmentation of Ziehl Neelson Sputum Slide Images using Contrast Enhancement and Otsu Threshold Technique", *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 30(1), pp. 282-289, 2023.
12. Kelian, V.H., Warip, M.N.M., Ahmad, R.B., (...) P.Ehkan, Zakaria, F.F., Ilyas, M.Z., "Toward Adaptive and Scalable Topology in Distributed SDN Controller", *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 30(1), pp. 115-131, 2023.
13. Zakaria, F.F., Jambek, A.B., Mahrom, N., (...), Al Eh Kan, P.L., Mustapa, M., "Tuberculosis Classification Using Deep Learning and FPGA Inferencing", *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 29(3), pp. 105-114, 2023.
14. Abdalkareem, Z.A., Al-Betar, M.A., Amir, A., P. Ekhan (...), Hammouri, A.I., Salman, O.H., "Discrete flower pollination algorithm for patient admission scheduling problem", *Computers in Biology and Medicine*, Elsevier, 141,105007, 2022.
15. Obadi, A.B., Zeghid, M., Kan, P.L.E., (...), Mercuri, M., Aldayel, O., "Optimized Continuous Wavelet Transform Algorithm Architecture and Implementation on FPGA for Motion Artifact Rejection in Radar-Based Vital Signs Monitoring", *IEEE Access* 10, IEEE, pp. 126767-126786, 2022.
16. Abdalkareem, Z.A., Amir, A., Al-Betar, M.A., Ekhan, P., Hammouri, A.I., "Healthcare scheduling in optimization context: a review", *Health and Technology* 11, Springer, pp. 445-469, 2021.
17. N Keraf, N Mohd Noor, H Darus, P Ehkan, V Hai Kelian, "A proposal of POLIMAS smart digital campus with internet of things (IoT)", *Journal of Applied Science and Innovation Technology* 2 (1), pp. 1-5, 2020.
18. VH Kelian, ND Keraf, H Darus, NM Noor, ELY Nie, P Ehkan, "Proposal for Automatic Vehicle Number Plate Recognition System in POLIMAS", *Journal of Engineering and Science Research* 4 (1), 2020.
19. NM Noor, ND Keraf, H Darus, VH Kelian, P Ehkan, "Room Automation System in Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS)", *Journal of Engineering and Science Research* 4 (1), 2020.

## **2) BOOK CHAPTERS/BOOKS (2020 – NOW)**

1. Siti Norwahidah Wahab, Wan Ainul Alyani Wan Mohamed, Nur Liyana Zakaria, Azham Ahmad, Phaklen Ehkan, Norfadila Mahrom, "Practical: Computer Organization & Architecture (Student's Edition)" – UCTATI/UniMAP, Penerbit: Universiti Malaysia Perlis, 2023.
2. Artificial Intelligence (AI) Based Projects: Design and Implementation, 2025

### 3) CONFERENCE PROCEEDINGS (2020 – NOW)

1. Taha Basheer Taha, Ruzelita Ngadiran, Phaklen Ehkan, "FPGA Implementation of High-Capacity SD Card using VHDL Language", 21st International Multi-Conference on Systems, Signals & Devices (SSD), IEEE Xplore, pp. 826-831, 2024.
2. Vijayandren Thambiraja, Shanmuka Rooban Gunasekaran, Thennarasan Sabapathy, Muzammil Jusoh, Mohd Ilman Jais, Phaklen Ehkan, "Frequency Reconfigurable Wearable Antenna Using Varactor Diode", 2024 IEEE International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES), pp 1-6, 2024.
3. Ali Alsayaghi, Thennarasan Sabapathy, Shanmuka Rooban Gunasekaran, Muzammil Jusoh, Mohamed Nasrun Osman, Phaklen Ehkan, "Gain Enhancement of Dual-Band Patch Antenna using EBG Array", 2024 IEEE International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES), pp 1-5, 2024
4. Nutveesa Verak, P Ehkan, R Ngadiran, S Jungjit, FF Zakaria, MNM Warip, MZ Ilyas, " Perceptual-based features for blind image quality assessment using extreme learning machine for biodiversity monitoring", AIP Conference Proceedings, 2898(1), 2024.
5. Virakwan Hai Kelian, Mohd Nazri Mohd Warip, R Badlishah Ahmad, Phaklen Ehkan,... "Traffic engineering provisioning of multipath link failure recovery in distributed SDN controller environment", AIP Conference Proceedings, 2898(1), 2024
6. K BaAli, M Abo-Zahhad, M Farrag, S Ahmed, P Ehkan, "Improving energy detection performance using segment of primary user signal energy in wide-band cognitive radio systems", AIP Conference Proceedings 2579 (1), 2023.
7. WS Yeoh, FF Zakaria, M Mustapa, MNM Warip, P Ehkan, AM Mozi, " Deep learning with FPGA: Age and gender recognition for smart advertisement board", AIP Conference Proceedings 2579 (1), 2023.
8. Wong, E.-H., Zakaria, F.F., Mustapa, M., Warip, M.N.M., Ehkan, P., "Breast cancer classification using deep learning and FPGA inferencing", AIP Conference Proceedings, 2562,020005, 2023.
9. Al-Salman, H.I.M., Ehkan, P., Al-Doori, M.H., "FPGA-based Design of Multiple Models for Industry 4.0 Cyber Security", Journal of Physics: Conference Series 1997 (1), 012031, 2021.
10. PE Taha Basheer Taha, Dujan B. Taha, Ruzelita Ngadiran, "Digital Image Recovery Based on Lifting Wavelet Transform", Journal of Physics: Conference Series 1962 (1), 012021.
11. Ibada, A.J., Ehkan, P., Ngadiran, R., Hammood, D.A., Alkhayyat, A., "RGB image encryption using hill algorithm and chaos system", Journal of Physics: Conference Series 1962 (1), 012061, 2021.
12. Zakaria, F.F., Warip, M.N.M., Ehkan, P., Mustapa, M., Ilyas, M.Z., "Deep-Learning Assisting Cerebral Palsy Patient Handgrip Task Translation", Journal of Physics: Conference Series 1962 (1), 012047, 2021.
13. Yacob, Y.B.M., Raof, R.A.A., Kan, P.L.E., Ahmad, N., Ismail, S., "Ensemble Learner for Covid-19 from Lung X-Ray Images", Journal of Physics: Conference Series 1878 (1), 012060, 2021.
14. Abdalkareem, Z.A., Akif, O.Z., Abdulatif, F.A., Amiza, A., Ehkan, P., "Graphical password based mouse behavior technique", Journal of Physics: Conference Series 1755 (1), 012021, 2021.
15. Lam, C., Ehkan, P., Jungjit, S., "Colour Characterization and Detection of Dry Chinese Sausage Casing Twist using Colour Image Analysis", Journal of Physics: Conference Series



1755 (1), 012050, 2021.

16. Ikhwan, A., Raof, R.A.A., Ehkan, P., Yacob, Y., Syaifuddin, M., "Data Security Implementation using Data Encryption Standard Method for Student Values at the Faculty of Medicine, University of North Sumatra", Journal of Physics: Conference Series 1755 (1), 012022, 2021.
17. Lam, C., Ehkan, P., Raof, R.A.A., Jungjit, S., "Real Time Detection of Object Blob Localization Application using 1-D Connected Pixel and Windowing Method on FPGA", Journal of Physics: Conference Series 1755 (1), 012054, 2021.
18. Keraf, N.D., Ehkan, P., Kelian, V.H., (...), Darus, H., Loke, E., "Automatic vehicle identification system using number plate recognition in POLIMAS", IOP Conf. Series: Materials Science and Engineering 767 ((2020) 012041), pp. 1-11, 2020.
19. Ehkan, P., Siew, S.V., Zakaria, F.F., Mohd Warip, M.N., Ilyas, M.Z., "Comparative study of parallelism and pipelining of RGB to HSL colour space conversion architecture on FPGA", IOP Conference Series: Materials Science and Engineering 767 (1), 012054, 2020.
20. Taha, T.B., Ngadiran, R., Ehkan, P.L., "Design and Implementation of Lifting Wavelet Transform Using Field Programmable Gate Arrays", IOP Conf. Series: Materials Science and Engineering 767 ((2020) 012041), 1-6, 2020.
21. Ehkan, P., Keraf, N.D., Kelian, V.H., Zakaria, F.F., Bei, S.Z., "A Proposal of Low Cost Home Automation System Using IoT and Voice Recognition", IOP Conference Series: Materials Science and Engineering 767 (1), 012068, 2020.

## CONSULTANCY & EXTERNAL RECOGNITION

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### 1) PANEL OF JURY (2020 – NOW)

1. **Panel Penilai Akreditasi**, Majlis Akreditasi Teknologi dan Teknikal (TTAC) Lembaga Teknologis Malaysia (MBOT), 2024 – 2026.
2. **Panel Penilai**, Projek Inovasi, Hari Inovasi JKE, Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Kedah, Oktober 2024.
3. **Panel Penilai**, Peringkat Universiti, Permohonan Skim Geran Penyelidikan KPT, UniMAP, 2024.
4. **Panel Penilai**, GDP, B Eng Computer Engineering, UniMAP, 2024.
5. **Panel Penilai**, FYP1 & 2, B Eng Computer Engineering, UniMAP, 2024.
6. **Peserta**, Bengkel Pemerkasaan FYP FK TEN, Siri 1 Tahun 2024, 29 Februari 2024.
7. **Panel Penilai**, Peringkat Universiti, Permohonan Skim Geran Penyelidikan KPT, UniMAP, 2023.
8. **Panel Penilai**, Projek Inovasi, Hari Inovasi JKE, Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Kedah, November 2023.
9. **Panel Penilai**, Pemilihan Calon Penerima Anugerah Pingat Emas Naib Canselor, Tesis Terbaik PhD, and MSc, FK TEN, 2023.
10. **Panel Pakar**, Projek Dana Penyelidikan dan Pembangunan (R&D), Kementerian Sains, Teknologi dan Inovasi (MOSTI) 2021.
11. **Panel**, Innovation Day, Department of Electrical Engineering, Politeknik Sultan Abdul Halim Muadzam Shah (POLIMAS), Jitra, Kedah, 28th. December 2021.
12. **Panel Dalaman**, Research Management Innovation Centre, Universiti Malaysia Perlis, 2021.
13. **Panel Penilai** Projek Hari Inovasi JKE, POLIMAS Sesi 2 2021/2022.
14. **Panel Penilai**, Technology and Technical Accreditation Council (TTAC), Malaysia Board of Technologist (MBOT) – January 2020 – December 2022 (2 Years).



## 2) OTHERS (2020 – NOW)

1. **Consultant**, CIBA VISION Johor Sdn. Bhd. (Alcon), Gelang Patah, Johor, 2025
2. **Participant**, Talk organised by AdvComp CoE, UniMAP on the title of “Introduction to Image Steganography”, 19 August 2024.
3. **Participant**, Talk organised by AdvComp CoE, UniMAP on the title of “Software Testing in Design Thinking Method”, 12 September 2024.
4. **Participant**, Talk organised by MiCTEC CoE, UniMAP on the title of “How to Boost Up CoE Output – Grow as a Team Collaboration, Publication, And Secure External Research Grant”, 23 July 2024.
5. **Adjunct Faculty**, Department of Electronics and Communication Engineering, School of Electrical & Communication Sciences, B.S. Abdur Rahman Crescent Institute of Science & Technology, Vandalur, Chennai 600 048 India 2017 – now.
6. **External Programme Advisor**, Program Bachelor of Technology (Hons.) Electronics (BTLE), Wawasan Open University (WOU), Penang 2021-2022.
7. **Guest Editor**, Springer AI and Society Journal – Social Impacts of Big Data Applications, IoT and Challenges, 2020.
8. **Editorial Manager**, International Journal of Engineering and Artificial Intelligence (IJEAI) 2022 – now.
9. **Academic Advisor**, Program Diploma Kejuruteraan Elektrik, JKE, POLIMAS, Kedah, 2020-2024.
10. **External Examiner**, Program Diploma Kejuruteraan Elektrik, JKE, Politeknik Kota Bharu, Kelantan 2022 – 2024.
11. **Member**, Hak Cipta MyIPO (CRLY00023788) – “POLIMAS Smart Digital Campus”, 02 Mac-2020.
12. **Consultant**, Industrial and Consultancy Project Collaboration in 3D Networks Sdn Bhd, Petaling Jaya, Selangor, Malaysia, 2020.

## TEACHING EXPERIENCES

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### 1) DEVELOPMENT OF NEW COURSES (HEA01) AND COURSE MATERIALS

- NMJ42803 – FPGA Programming (Undergraduate subject)
- NMJ10404 – Digital Electronics I (Undergraduate subject)
- NMJ20404 – Digital Electronics II (Undergraduate subject)
- NSJ16103 – Advanced Digital Electronics (Postgraduate subject)
- EKT511 – Embedded System Design using FPGA (Postgraduate subject)
- EKT521 – FPGA-SoC Design (Postgraduate subject)
- EKT530 – Research Methodology (Postgraduate subject)

### 2) TEACHING – POSTGRADUATE

- Advanced Digital Electronics
- FPGA-SoC Design
- Research Methodology
- Dissertation II

### 3) TEACHING – UNDERGRADUATE

- FPGA Programming
- Principles of Computer Architecture
- Digital Electronics I
- Digital Electronics II
- Microprocessor System
- Signal and System
- Analogue Electronics

## STUDENTS SUPERVISION

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- Dr. Phaklen has been involved in supervision of postgraduate and undergraduate students at PhD, MSc, and Bachelor's degree levels.

### 1) POSTGRADUATE STUDY

|            | Main Supervisor |          | Co-Supervisor |          |
|------------|-----------------|----------|---------------|----------|
|            | Completed       | Active   | Completed     | Active   |
| <b>PhD</b> | <b>7</b>        | <b>2</b> | <b>8</b>      | <b>1</b> |
| <b>MSc</b> | <b>9</b>        | <b>0</b> | <b>2</b>      | <b>1</b> |

### 2) UNDERGRADUATE (FYP/GDP)

- Dr. Phaklen has been supervised more than 60 FYP students and more than 10 GDP projects since 2005.

## POSTGRADUATE EXAMINER

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### 1) PhD THESIS

1. External Examiner (2025) - (TAR-UMT, Malaysia)
  - **Title:** Implementation of Computation Offloading Algorithm in Fog Computing to improve Quality of Experience (QoE) and Energy Consumption.
2. External Examiner (2025) - (Anna University, Chennai, India)
  - **Title:** Enhancing LSTM Deep Learning Models for Solar Photovoltaic Power forecasting using Swarm Optimization Techniques.
3. External Examiner (2024) - (Anna University, Chennai, India)
  - **Title:** Landslide Prediction using GAN Enabled Machine Learning Framework.
4. External Examiner (2023) - (Sathyabama Institute of Science & Technology, India)
  - **Title:** An Efficient Segmentation Model for Detecting Diabetic Retinopathy using Convolutional Neural Network.
5. Internal Examiner (2013)
  - **Title:** Design and Implementation of Embedded Concurrent Computing Architecture using FPGA.
6. Internal Examiner (2017)
  - **Title:** Optimize Video Stream Synchronization Over IP Network using Adaptive Media Playout.
7. Internal Examiner (2020)
  - **Title:** Development of a High-Speed DNA Sequencer for Early-Stage Disease Diagnosis.
8. Chair PhD Viva (2018)
  - **Title:** An Embedded Based Background Subtraction Algorithm for A Non-Intrusive Travel Time Estimation System.

9. Chair PhD Viva (2018)
  - **Title:** Characterization of Surface Waves using Anisotropic Meta-surface Based Electromagnetic Bandgap.
10. Chair PhD Viva (2019)
  - **Title:** Optimization of Scheduling Algorithm for Carrier Aggregation Toward QOS Requirements Model in LTE-Advanced Networks.
11. Chair PhD Viva (2020)
  - **Title:** CCEP: An Efficacious Content Caching and Eviction Priorities for High Performance of In-Network Caching in Information Centric Networking.
12. Chair PhD Viva (2020)
  - **Title:** Part of Word Segmentation and Recognition Techniques for Urdu Handwritten Text.
13. Chair PhD Viva (2022)
  - **Title:** Nanocrystalline Cellulose as Reinforcement for PLA Bio-nanocomposite Films.

## 2) MSc THESIS

1. External Examiner (2017) - UiTM
  - **Title:** Real-Time Hand Gesture Recognition for Embedded Hardware using Open CV and Arduino.
2. Internal Examiner (2022)
  - **Title:** User-Interface Automation Using Computer Vision for BIOS Validation.
3. Internal Examiner (2021)
  - **Title:** Enhance Implementation of Embedded Concurrent Des Functional Units using Spatial Parallelism Approach on FPGA for Better Throughput.
4. Internal Examiner (2020)
  - **Title:** An FPGA-based High Speed DNA Sequencer for Early-Stage Breast Cancer Diagnosis.
5. Chair MSc Viva (2024)
  - **Title:** Design and Development of Flexible 5G on Body Antenna for Smart Garments.
6. Chair MSc Viva (2021)
  - **Title:** 5.8GHz Circularly Polarized Microstrip Array Antenna for Based Station Application.
7. Internal Examiner (2019)
  - **Title:** Infant Cry Pattern Identification using Radial Basis Function Network.
8. Internal Examiner (2018)
  - **Title:** Design and Implementation of FPGA-IoT Based Detecting System using Spatial Parallelism.
9. Internal Examiner (2018)
  - **Title:** DCT Image Compression Implemented on Raspberry Pi to Compress Image Captured by CMOS Image Sensor.
10. Chair MSc Viva (2018)
  - **Title:** Design and Modelling of Wearable Fluidic Antenna with AMC.

## PAPER REVIEWER

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### 1) JOURNALS

1. IEEE Access
2. Journal of Supercomputing
3. Journal of Information Systems and Technology Research
4. International Journal of Engineering and Artificial Intelligence (IJEAI)
5. International Journal of Applied Control, Electrical and Electronics Engineering (IJACEEE)
6. Jurnal Teknologi, UTM
7. Journal of King Saud University – Computer and Information Sciences
8. Journal of Advanced Research in Applied Sciences and Technology
9. Jurnal Kajian Sistem Informasi dan Ilmu Komputer (Indonesia)

### 2) CONFERENCE PAPERS

1. Workshop on Electronics Communication Engineering (WECE 2024)
2. 10<sup>th</sup>. International Conference on Engineering and Technology (ICET 2024)
3. 5<sup>th</sup>. International Conference on Smart Sensors and Application (ICSSA 2024)
4. 10<sup>th</sup>. International Conference on Engineering and Technology (ICET2024)
5. International Engineering Conference (IEC2023)
6. International Conference on Electronic Design (ICED 2022)
7. 2<sup>nd</sup>. International Conference on Engineering and Technology (ICoEngTech) 2023
8. International Symposium on Engineering and Technology (ISeTech2023)
9. 1<sup>st</sup>. International Conference on Engineering and Technology (ICoEngTech) 2021
10. 3<sup>rd</sup>. International Conference on E-Business and E-commerce Engineering (EBEE 2021)
11. International Conference on Electronic Design (ICED 2020)
12. International Conference on Electronic Design (ICED 2018)

## PROFESSIONAL COURSES/TALK/PRESENTATION

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1. **Editorial Board Member**, Journal of Artificial Intelligence and Knowledge Engineering (JAIKE)
2. **Editorial Board Member**, International Journal of Applied Control, Electrical and Electronics Engineering (IJACEEE)
3. **Keynote Speaker**, IEEE - 4th International Conference on Innovative Computing, Intelligent Communication, and Smart Electrical Systems (ICSES - 2024), India, 13 November 2024.
4. **Keynote Speaker**, International Conference of on Education, Law, and Social Science, Universitas Muslim Nusantara Al Washliyah, Indonesia, 13 September 2023.
5. **Keynote Speaker**, International Conference of Science Development and Technology (ICosSDTech 2021), Universitas Islam Negeri Sumatera Utara, Indonesia, 04 November 2021.
6. **Keynote Speaker**, International Seminar on Higher Education Cooperation Forum (FKPT), Medan, Indonesia, 07 August 2020.
7. **Keynote Speaker**, International Conference for Humanities and Technology (ICFHAT 2019), Sharm El-Sheikh, Egypt, 27 – 29 October 2019.
8. **Speaker**, SCCE Research Knowledge Sharing Webinar, “Hardware Implementation of Hybrid Multi-layered Perceptron – Neural Network”, UniMAP, 24 July 2020.

9. **Speaker**, Bengkel “It is Easy to Convert Project Report to Research Paper”, POLIMAS 2020.
10. **Visiting Lecturer**, Faculty of Data Science and Computing, Universiti Malaysia Kelantan (UMK), Semester 2, 2023/2024.
11. **Presenter**, International Conference on Engineering and Technology (ICoEngTech 2023), July 2023 – Titles: Deep Learning-based Blind Image Quality Assessment using Extreme Learning Machine.
12. **Presenter**, International Conference on Advanced Computing, Systems, and Applications (InCASA 2023), Bali, Indonesia – Titles: Comparative Analysis of ELM-based Blind Image Quality Assessment with K-Fold Cross-Validation.
13. **Presenter**, International Conference on Advanced Computing, Systems, and Applications (InCASA 2023), Bali, Indonesia – Titles: FPGA-based Parallel Model Computing Architecture for DES Algorithm.
14. **Presenter**, International Conference on Inventive Computing Systems and Applications (ICICSA 2018), Thailand.

## **ADMINISTRATIVE POST/EXTENDED RESPONSIBILITIES**

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### **1) COMMITTEE (FACULTY/UNIMAP)**

1. Research Fellow, CoE Advanced Computing (AdvComp), UniMAP, 2022 – now
2. Associate Research Fellow, CoE Micro System Technology (MiCTEC), UniMAP, 2023 - now
3. Program Director of Engineering Camp UniMAP-RUTS, 13-17 May 2024.
4. AJK KPI Akreditasi FTKEN 2023
5. AJK Penilaian Tender dan SebuTharga FKTEEN/UniMAP 2023
6. AJK Panel Penilai Geran MOSTI 2023
7. AJK Penilai Dalaman bagi Geran KPT 2023
8. AJK Bebas untuk Perbincangan Berkaitan Pembekal yang gagal memenuhi spesifikasi perkhidmatan peringkat UniMAP 2023
9. AJK KPI Penyelidikan FTKEN 2022
10. AJK Bebas untuk Perbincangan Berkaitan Pembekal yang gagal memenuhi spesifikasi perkhidmatan peringkat UniMAP 2022
11. AJK Penilai Dalaman bagi Geran KPT 2022
12. AJK Penilaian Tender dan SebuTharga DMDC 2021
13. AJK Penilaian Tender dan SebuTharga FKTEEN 2021
14. AJK Audit Akademik FKTEEN Semester 1, Sesi 2021/2022
15. AJK Aktiviti Penyelidikan PPKKP 2021
16. AJK Aktiviti Penyelidikan PPKKP 2020

### **2) COMMITTEE (CONFERENCES)**

1. **Program Director**, Smart Farm Camp UniMAP-RUTS, Thailand 2025
2. **Program Director**, Engineering Camp UniMAP-RUTS, Thailand 2024
3. **Promotion and Sponsorship Committee**, International Conference on Engineering and Technology (ICoEngTech2023).
4. **Technical Programme Committee**, 2<sup>nd</sup>. International Conference on Advances in Computational Intelligence and Communication (CIC 2023) on 7th and 8th, December 2023.
5. **Technical Committee Member**, 2023 5th. International Conference on E-Business and E-commerce Engineering (EBEE 2023), University of Essex, UK, December 15-17, 2023.

6. **Academic Committee Member**, 2022 2nd. International Conference on Advanced Algorithms and Signal Processing (AASIP 2022), Hulun Buir, China, 19-21 August 2022.
7. **Committee member**, 2022 3rd International Conference on Intelligent Design (ICID 2022).
8. **Conference Technical Committee**, 2021 3rd International Conference on E-Business and E-commerce Engineering (EBEE 2021), Sanya, China, December 17-19, 2021.
9. **Technical Program Committee**, 2021 International Conference on Artificial Intelligence, Big Data and Algorithms (CAIBDA), May 28, 2021, to May 30, 2021, Xi'an, China.
10. **Organizing Committee**, 2021 International Conference on Industrial Technology and Engineering Management (ICITEM2021).
11. **Conference Chair**, International Conference on Engineering and Technology (ICoEngTech2021).
12. **Scientific Committee**, 2nd. International Conference on Cyber Security and Computer Science (ICONCS 2020), Dhaka, Bangladesh, 15-16 February 2020.
13. **Local Arrangement and Registration Committee**, International Virtual Conference on Electronics Design 2020.
14. **Technical Committee**, 3 rd. International Conference on Electrical, Mechanical and Computer Engineering (ICEMCE 2019), P.R. China, 14-16 June 2019.
15. **Committee Member (Chair)**, International Postgraduate Colloquium between Thaksin University, Thailand and UniMAP, September 2019.
16. **Session Chair**, International Symposium on Engineering and Technology (ISETech 2019), Perlis, 23 December 2019.

## COMMUNITY SERVICES

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- **Penceramah**, Program Kembara Kesedaran Pendidikan Anak Desa Madani (KeDESA@Kelantan), anjuran Gerakan Pendidikan Bumiputera Malaysia bertempat di SMK Bukit Bunga, Kelantan.
- **Motivational Coach** untuk Pelajar SMK Perlis bersempena Program Sumur Peringkat Sekolah, 3 April 2024.
- **YDP PIBG (President of Parents and Teachers Association)**, SMK Seri Mahawangsa, Jitra, Kedah, sesi 2017-2025.
- **Sub-Committee**, Biro Pendidikan dan Keagamaan KESSA, sesi 2021/2023.
- **ALK Koperasi UniMAP (KoUniMAP)** – 2018 – 2024.

## REFEREES

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1. **PROFESSOR DATO' TS. DR. ZALIMAN SAULI**  
Vice Chancellor  
Universiti Malaysia Perlis (UniMAP)  
Perlis  
(Email: [zaliman@unimap.edu.my](mailto:zaliman@unimap.edu.my))
2. **ASSOCIATE PROFESSOR IR. TS. DR. RAZAIDI HUSSIN**  
Dean  
Faculty of Electronic Engineering & Technology  
Universiti Malaysia Perlis (UniMAP)  
Perlis  
(Email: [shidee@unimap.edu.my](mailto:shidee@unimap.edu.my))