# 2023 IEEE International Conference on Computing (ICOCO) Program

D1_R3_1C (PLUMERIA): The last paper presentation ends before (10:15) the session end time of 10:30.

D1_R3_3C (Plumeria): The last paper presentation extends beyond (4:35) the session end time of 4:30.

D2_R2_1B: The last paper presentation ends before (9:15) the session end time of 9:45.

D3_R1_1A (LANTANA): The last paper presentation ends before (10:15) the session end time of 10:30.

D3_R2_1B (VERNONIA): The last paper presentation ends before (9:30) the session end time of 10:30.

D3_R3_1C (PLUMERIA): The last paper presentation ends before (10:15) the session end time of 10:30.

| Kuala Lumpur time | Tuesday, October 10 | | Wednesday, October 11 | | | Thursday, October 12 |
|---|---|---|---|---|---|---|
| 8:00 - 9:00 am | *Registration* | | *Registration* | | | *Registration* |
| 9:00 - 9:45 am | *Parallel 1A: Big Data Analytics*<br>*Parallel 1B: Networking and Information Security*<br>*Parallel 1C: Open Systems* | | *Parallel 1B: Open Systems* | *Parallel 1C: e-Learning, e-Management and e-Services Tracks* | *Parallel 1A: Networking and Information Security* | *Parallel 1A: Big Data Analytics*<br>*Parallel 1B: e-Learning, e-Management and e-Services Tracks*<br>*Parallel 1C: Graphic and Interactive Media* |
| 9:45 - 10:30 am | | | *Parallel 1B: Wireless, Ad Hoc and Sensor Networks* | | | |
| 10:30 - 10:45 am | *Coffee Break* | | *Coffee Break* | | | *Coffee Break* |
| 10:45 - 11:00 am | | | | | | |
| 11:00 - 11:15 am | *Opening Remarks* | | | *Keynote 2: Mr Muhammad Arif Tukiman* | | *Keynote 3: Ts Dr. Mohd Hazli Mohamed Zabil* |
| 11:15 am - 12:30 pm | *Keynote 1: Prof. Steven Furnell, University of Nottingham, UK.* | | | | | |
| 12:30 - 12:45 pm | | *LUNCH BREAK* | *Lunch* | | | *Closing & Award Ceremony* |
| 12:45 - 1:00 pm | | | | | | |
| 1:00 - 2:00 pm | | | | | | *LUNCH* |
| 2:00 - 3:00 pm | *Parallel 2A: Big Data Analytics*<br>*Parallel 2B: e-Learning, e-Management and e-Services Tracks*<br>*Parallel 2C: Graphic and Interactive Media* | | *Parallel 2B: Postgraduate Symposium* | *Parallel 2C: e-Learning, e-Management and e-Services Tracks* | *Parallel 2A: Big Data Analytics* | |
| 3:00 - 3:30 pm | *Networking Session* | | *Networking Session* | | | |
| 3:30 - 4:15 pm | *Parallel 3C: Wireless, Ad Hoc and Sensor Networks* | *Parallel 3A: Big Data Analytics*<br>*Parallel 3B: e-Learning, e-Management and e-Services Tracks* | *Parallel 3B: Postgraduate Symposium* | *Parallel 3C: Graphic and Interactive Media* | *Parallel 3A: Big Data Analytics* | |
| 4:15 - 4:30 pm | *Parallel 3C: Open Systems* | | | | | |
| 4:30 - 7:00 pm | | | | | | |
| 7:00 - 10:00 pm | *ICOCO2023 Dinner & Networking Session* | | | | | |

## Tuesday, October 10

### Tuesday, October 10 8:00 - 9:00 (Asia/Kuala_Lumpur)

#### Registration

### Tuesday, October 10 9:00 - 10:30 (Asia/Kuala_Lumpur)

#### Parallel 1A: Big Data Analytics

Chairperson: Dr Nurain Ibrahim

Room: LANTANA

**9:00** ***Color Retention Assessment of Duhat Dye to Cotton Fabric Using Color Fastness Test and Digital Image Processing***
Jilbert M Novelero (Mapua University, Philippines); Rennel M Mallari (Angeles University Foundation, Philippines); Donna Y Gomez and Ricardo Jr. A Banal (Systems plus College Foundation Pampanga, Philippines); Jennifer C. Dela Cruz (Mapua University, Philippines)

**9:15** ***Leveraging Extreme Value Theory to Assess Stock Market Risk***
Noor Fadhilah Ahmad Radi and Nurul Hidyawati Hanafi (Universiti Teknologi MARA, Malaysia); Nor Azura Md Ghani (University Teknologi MARA, Malaysia); Roziah Mohd Janor (Universiti Teknologi MARA, Malaysia)

**9:30** ***Bootstrapping Simulation in Determining the Prognostic Factors of Lung Cancer Disease by Parametric Survival Analysis***
Siti Afiqah Muhamad Jamil (Universiti Teknologi MARA, Malaysia); Mohd Asrul Affendi Abdullah (Universiti Tun Hussien Onn, Malaysia); Nurain Ibrahim and Mahayaudin M. Mansor (Universiti Teknologi MARA, Malaysia); Nor Azura Md Ghani (University Teknologi MARA, Malaysia)

**9:45** ***Multiple Pedestrian Object Recognition to Correct User Direction of Vision-Impaired Assistive Device***
Eduardo Jr Piedad (Advanced Science and Technology Institute & Universitat Polytecnica de Catalunya, Philippines); Samuel Harrison P Cerrudo and Elmer C Peramo (Advanced Science and Technology Institute & Department of Science and Technology, Philippines)

**10:00** ***Moving Towards Analytics-Centric Business Organization: Lessons Learned and Future Directions from a Case Study***
Kelwin Seen-Tiong Tan, Yeh Ching Low and Angela Siew-Hoong Lee (Sunway University, Malaysia)

**10:15** ***Type 2 Diabetes Mellitus Prediction Using Data Mining Approach***
Nurain Ibrahim, Siti Afiqah Muhamad Jamil and Mahayaudin M. Mansor (Universiti Teknologi MARA, Malaysia); Nor Azura Md Ghani (University Teknologi MARA, Malaysia); Ahmad Zia Ul-Saufie (Universiti Teknologi Mara, Malaysia); Allina Farina Halias and Nurain Hazeeqah Saiful (Universiti Teknologi MARA, Malaysia)

## Parallel 1B: Networking and Information Security

Chairperson: Prof Dr. Nor Badrul Anuar Jumaat
Room: VERNONIA

**9:00** ***Detection of XSS Attacks with One Class SVM Using TF-IDF and Devising a Vectorized Vocabulary***
Konosuke Tamamura (Toyo University, Japan); Shun Sakai (Nihon Protec, Japan); Koki Watarai (Toyo University, Japan); Satoshi Okada (The University of Tokyo & Toyo University, Japan); Takuho Mitsunaga (Toyo University, Japan)

**9:15** ***Data Embedding with Dynamic Slice Quantisation in Versatile Video Coding***
Joan Hau (TARUMT, Malaysia); Li Peng Tan (Tunku Abdul Rahman University College, Malaysia); Yiqi Tew (Tunku Abdul Rahman University of Management and Technology, Malaysia)

**9:30** ***Leveraging Federated Learning and XAI for Privacy-Aware and Lightweight Edge Training in Network Traffic Classification***
Azizi Ariffin (Universiti Teknologi MARA, Malaysia); Faiz Zaki (Universiti Malaya, Malaysia); Nor Badrul Anuar (Universiti Malaya & Universiti Tenaga Nasional, Malaysia)

**9:45** ***Evaluation of HTTP Flood DDoS Cyber Attack on Apache2 Web Server with Linux Ubuntu 22.04***
Haotian Tang and Samad Salehi Kolahi (Unitec Institute of Technology, New Zealand); Liam Thompson (Spark & Event Hospitality and Entertainment Industry, New Zealand)

**10:00** ***Lessons Learned for Practical Penetration Test Against Industrial Control Systems***
Mariko Fujimoto (Toyo University, Nagoya Institute of Technology & NEC Solution Innovators, Japan); Yusuke Itani (NEC Solution Innovators, Japan); Takuho Mitsunaga (Toyo University, Japan)

**10:15** ***Challenges and Future of Network Architectures: A Study on 5G and 6G Integrated Networks***
Muhammad Fakhrul Safitra (Telkom University, Indonesia); Deyana Prastika Putri (Telkom & Telkom University, Indonesia); Hanif Fakhrurroja (National Research and Innovation Agency, Indonesia & Telkom University, Indonesia)

## Parallel 1C: Open Systems

Chairperson: Mr Mohammed Rawidean Kassim
Room: PLUMERIA

**9:00** ***Identification of Emergent Properties Occurrences Factors in System-Of-Systems***
Lehka Subramanium and Sa'adah Hassan (Universiti Putra Malaysia, Malaysia); Hazura Zulzalil (UPM, Malaysia); Mohd Hafeez Osman (Universiti Putra Malaysia, Malaysia)

**9:15** ***Application Development for Compatibility of Functional Requirements with Text Information in a User Interface Design***
Muhamad Andera Famuzia (Telkom & Telkom University, Indonesia); Yudi Priyadi and Monterico Adrian (Telkom University, Indonesia)

**9:30** ***Revolutionizing Concurrent Crawling: A Novel Approach to Enhance PHP-Python Integration Using AMQP, Selenium, Celery, and RabbitMQ***
Yosua Alvin Adi Soetrisno (Diponegoro University & Faculty of Engineering, Indonesia); Aghus Sofwan (Diponegoro University, Indonesia); Muh Arfan (Universitas Diponegoro, Indonesia); Enda Wista Sinuraya, Eko Handoyo and Maman Somantri (Diponegoro University, Indonesia)

**9:45** ***Search-Based Fairness Testing: An Overview***
Hussaini Mamman (Universiti Teknologi Petronas & Abubakar Tafawa Balewa University, Bauchi, Malaysia); Shuib Basri (Universiti Teknologi Petronas, Malaysia); Abdullateef Balogun (Universiti Teknologi PETRONAS, Malaysia & University of Ilorin, Nigeria); Abdullahi Abubakar Imam (Universiti Brunei Darussalam, Brunei Darussalam); Luiz F. Capretz (University of Western Ontario, Canada); Ganesh Kumar (Universiti Teknologi PETRONAS, Malaysia)

**10:00** ***Rielkies Nearby Sales Agents Finder Using Haversine Method***
Mohd Suffian Sulaiman (Universiti Teknologi MARA, Malaysia)

# Tuesday, October 10 10:30 - 11:00 (Asia/Kuala_Lumpur)

## Coffee Break

# Tuesday, October 10 11:00 - 11:15 (Asia/Kuala_Lumpur)

## Opening Remarks

# Tuesday, October 10 11:15 - 12:45 (Asia/Kuala_Lumpur)

## Keynote 1: Prof. Steven Furnell, University of Nottingham, UK.

Small is ... vulnerable? The cybersecurity challenges of SMEs
**Ensuring cybersecurity is an ongoing challenge for all organisations, with technology usage and network connectivity representing fundamental foundations of businesses operation. Small and medium enterprises are no exception here, playing a crucial role in the economic context and often being key elements of the supply ecosystem for larger organisations. However, the cybersecurity challenge is likely to be more pronounced within SMEs, where the availability of related knowledge, skills and budgets is typically lower. Unfortunately, this does not lessen the risk, and despite their size SMEs face many of the same threats as their larger counterparts. In this talk, Prof. Steven Furnell examines the challenges facing SMEs, drawing upon recent evidence from a UK survey of attacks and breaches. He also considers the situation that SMEs can face when seeking to obtain support and guidance, leading to discussion of new research that seeks to investigate how the situation may be improved via a community-led approach.**

Room: PLUMERIA

# Tuesday, October 10 12:30 - 2:00 (Asia/Kuala_Lumpur)

## LUNCH BREAK

## Tuesday, October 10 2:00 - 3:00 (Asia/Kuala_Lumpur)

### Parallel 2A: Big Data Analytics

Chairperson: Dr Siti Afiqah Muhamad Jamil
Room: LANTANA

**2:00** ***Building an Electronic Resource of Systematic Reviews in Computing***
Ghader Kurdi (Umm Al-Qura University, Saudi Arabia)

**2:15** ***Research of Shanghai Inbound Tourism Based on COVID-19 Intervention Model***
Hairu Wang and Yong Meng (Shanghai University of Engineering Science, China); Yutong Liu (University of Southern California, China)

**2:30** ***Backward Stepwise Modelling for Unemployment Rate in Malaysia***
Mahayaudin M. Mansor, Nur Fatehah Mostapar, Nursalsabila Hasan, Norazuwa Mohamad Rozali and Ariff Azly Muhamed (Universiti Teknologi MARA, Malaysia); Nurulkamal Masseran (Universiti Kebangsaan Malaysia, Malaysia)

**2:45** ***Human Activity Recognition Using Ensemble of CNN-Based Transfer Learning Models***
Miskatul Jannat (International Islamic University, Chittagong, Bangladesh); Rezwana Karim and Navia Zafrin Islam (International Islamic University Chittagong, Bangladesh); Abu Nowshed Chy (University of Chittagong, Bangladesh); Abdul Kadar Muhammad Masum (International Islamic University Chittagong, Bangladesh)

### Parallel 2B: e-Learning, e-Management and e-Services Tracks

Chairperson: Assoc Prof Dr Sim Tze Ying
Room: VERNONIA

**2:00** ***Research and Application of GPT-Based Large Language Models in Business and Economics: A Systematic Literature Review in Progress***
Yuzhang Han and Jing Hou (California State University San Marcos, USA); Yi Sun (California State University, San Marcos, USA)

**2:15** ***Exploring Potential Drivers Influencing BIM Adoption in the AEC Industry: A Systematic Approach***
Humayun Kabir Biswas, Sian Lun Lau and Tze Ying Sim (Sunway University, Malaysia)

**2:30** ***Methods for Estimating Seniors' Source Code Helpful for Next Challenge Depending on a Series of Programs Written by Each Student in Recent Exercises***
Shoichi Nakamura (Fukushima University, Japan); Soichiro Sato (Tokyo Gakugei University, Japan); Yoshiki Sato (Tokyo Gakugei University & Info Screw Inc., Japan); Youzou Miyadera (Tokyo Gakugei University, Japan)

**2:45** ***Methods for Organization of the Contexts in Complicated Elaboration of Research Documents***
Sho Onami (Fukushima University, Japan); Ryo Onuma (Tsuda University, Japan); Hiroki Nakayama (Yamagata University, Japan); Hiroaki Kaminaga (Fukushima University, Japan); Youzou Miyadera (Tokyo Gakugei University, Japan); Shoichi Nakamura (Fukushima University, Japan)

### Parallel 2C: Graphic and Interactive Media

Chairperson: Assoc Prof Dr. Mohd Hazli Mohamed Zabil
Room: PLUMERIA

**2:00** ***Correlation Network Analysis of ASEAN Foreign Direct Investment***
Mahayaudin M. Mansor and Nurain Ibrahim (Universiti Teknologi MARA, Malaysia); Ivan Yeo (Universiti Tunku Abdul Rahman, Malaysia); Mohd Aftar Bakar (Universiti Kebangsaan Malaysia, Malaysia); Sukhminder Kaur (Taylor's University, Malaysia); Fatimah Razak (Universiti Kebangsaan Malaysia, Malaysia)

**2:15** ***Design and Production of a 3D Animated Short Film Using Blender Exploring Superstitious Beliefs***
Roselyn A. Maaño, John Rover R Sinag, Rodrigo C. Belleza Jr., Donabell S Hernandez, Erika D. Marca, Mszeey Montalbo and Jay Lynn C. Villanueva (Manuel S. Enverga University Foundation, Philippines)

**2:30** ***UNet-Based Polyp Segmentation: A Survey***
Mohd Shafry Mohd Rahim (University Technology Malaysia, Malaysia); Si Chen (Universiti Teknologi Malaysia, Malaysia)

**2:45** ***Metaverse Trend: Definition, Application, Opportunities, Law, and Ethics***
Muhammad Fakhrul Safitra, Muhammad Ilham Alhari and Muharman Lubis (Telkom University, Indonesia); Hanif Fakhrurroja (National Research and Innovation Agency, Indonesia & Telkom University, Indonesia); Villy Satria Praditha (Telkom University, Indonesia); Deyana Prastika Putri (Telkom & Telkom University, Indonesia)

## Tuesday, October 10 3:00 - 3:30 (Asia/Kuala_Lumpur)

### Networking Session

## Tuesday, October 10 3:30 - 4:30 (Asia/Kuala_Lumpur)

### Parallel 3A: Big Data Analytics

Chairperson: Assoc Prof Dr. Ani Liza Asnawi
Room: LANTANA

**3:30** ***The Rise in the Death Rate in Malaysia: Is It Due to Road Accidents, Suicide, Tuberculosis or Burden of Health Expenditure?***
Mahayaudin M. Mansor, Arif Haikal Khairul Nizam, Nur Sarah Zulkifli, Siti Hajar Mohd Azha and Siti Afiqah Muhamad Jamil (Universiti Teknologi MARA, Malaysia); Mohd Kamal Mohd Nawawi (Universiti Utara Malaysia, Malaysia)

**3:45** ***A Performance Comparison of NLP Text Pre-Processing Techniques for Analysing Personality Based on Myers Briggs Type Indicator (MBTI)***
Muhammad Haziq Abdul Rauf, Elly Johana Johan and Zalilah Abd Aziz (Universiti Teknologi MARA, Malaysia)

**4:00** ***Multi-Class Classification of Lung Cancer Using Machine Learning and Image Processing***
Teerapat Charnsripinyo (Trium Udom Suksa School, Thailand); Naruemon Wattanapongsakorn (King Mongkut's University of Technology Thonburi, Thailand)

**4:15** ***Public Sentiment of Biodiversity Conservation Using Machine Learning Approach***
Shamimi A. Halim and Eilzah Zamani (Universiti Teknologi MARA, Malaysia); Sofianita Mutalib (University of Technology MARA, Malaysia); Shamsul Bahri Yusoff (Digital Nasional Berhad, Malaysia)

### Parallel 3B: e-Learning, e-Management and e-Services Tracks

Chairperson: Dr Noor Fadhilah Ahmad Radi
Room: VERNONIA

**3:30** ***E-Voting System in a Higher Education Institution***
Aldeniz Rashidov (Technical University of Gabrovo, Bulgaria)

**3:45** ***TOST: School Bus Monitoring and Management System for Schools and Parents***
Fahad Aqeel Thakur (University of Malaya, Malaysia); Muhammad Hafiz (University of Malaya & Hillool OU, Malaysia); Maath Alani (Hillool, Australia); Muntadher Saadoon and Chiew Thiam Kian Chiew (University of Malaya, Malaysia)

**4:00** ***Key Competencies Development in the Digital Transformation of Higher Education in Indonesia***
Widia Febriyani, Muharman Lubis and Fadhil Rozi Hendrawan (Telkom University, Indonesia)

**4:15** ***The Analysis of Knowledge Management Practices Based on Permanent and Contract Employees in the Organization***
Fadhil Rozi Hendrawan, Rian Bimo Ankhal, Galih Rashif Husaini and Muharman Lubis (Telkom University, Indonesia)

## Tuesday, October 10 3:30 - 4:15 (Asia/Kuala_Lumpur)

### Parallel 3C: Wireless, Ad Hoc and Sensor Networks

Chairperson: Prof Dr. Lau Sian Lun
Room: PLUMERIA

**3:30** ***Success Probability and Spectral Efficiency Estimation Using Successive Interference Cancellation for B5G Network***
Faizan Qamar (Universiti Kebangsaan Malaysia (UKM), Malaysia); Anand Gachhadar (ZTE Corporation & Kathford Intl College of Engineering and Mgmt., Nepal); Syed Hussain Ali Kazmi (Universiti Kebangsaan Malaysia, Malaysia); Rosilah Hassan (Universiti Kebangsaan Malaysia & UKM, Malaysia)

**3:45** ***Preliminary Exploration on Node-To-Node Fault Tolerance Coordination in Distributed System***
Muntadher Saadoon, Siti Hafizah Ab Hamid, Hazrina Sofian, Hamza H. M. Altarturi and Nur Nasuha Daud (University of Malaya, Malaysia); Zati Azizul Hasan (Faculty of Computer Science and Information Technology & University of Malaya, Malaysia); Haqi Khalid (A-19-23A- Univ 360 Place, Malaysia)

**4:00** ***Multi-Agent Deep Reinforcement Learning for Resource Allocation in 5G and 6G Networks***
Abdikarim Ibrahim and Mee Hong Ling (Sunway University, Malaysia); Kok-Lim Alvin Yau (Universiti Tunku Abdul Rahman, Malaysia)

## Tuesday, October 10 4:15 - 4:30 (Asia/Kuala_Lumpur)

### Parallel 3C: Open Systems

Chairperson: Prof Dr. Lau Sian Lun
Room: PLUMERIA

**4:15** ***Development of Requirements for AIS Aimed at Controlling High Turnover***
Alexey Gladkov, Vladislav Kukartsev and Anastasia Kozlova (Reshetnev Siberian State University of Science and Technology, Russia); Dmitrii Grigorev (Siberian Federal University, Russia)

## Tuesday, October 10 7:00 - 10:00 (Asia/Kuala_Lumpur)

### ICOCO2023 Dinner & Networking Session

# Wednesday, October 11

## Wednesday, October 11 8:00 - 9:00 (Asia/Kuala_Lumpur)

### Registration

## Wednesday, October 11 9:00 - 10:30 (Asia/Kuala_Lumpur)

### Parallel 1C: e-Learning, e-Management and e-Services Tracks

Chairperson: Mohammed Rawidean Kassim
Room: PLUMERIA

**9:00** ***Analysis of Exploratory Traces in Programming for Identifying Students Struggling in Construction of Program Logic***
Mitsuhiro Kawasaki and Sho Onami (Fukushima University, Japan); Ryo Onuma (Tsuda University, Japan); Hiroki Nakayama (Yamagata University, Japan); Youzou Miyadera (Tokyo Gakugei University, Japan); Shoichi Nakamura (Fukushima University, Japan)

**9:15** ***Comparative Analysis of Term Weighting Methods for Question Classification in Bloom Taxonomy Using Machine Learning Approach***
Lazuardy Syahrul Darfiansa and Fitra A. Bachtiar (Brawijaya University, Indonesia)

**9:30** ***Investigating the Critical Factors for FinTech Adoption: An Empirical Study of Australian Financial Institutions***
Lakshmi Sujatha Grandhi and Santoso Wibowo (Central Queensland University, Australia); Marilyn Wells (CQUniversity, Australia)

**9:45** ***A Comprehensive Analysis of Student Satisfaction in Hybrid Learning at Education University***
Fahdi Saidi Lubis (Universitas Telkom, Indonesia); Muharman Lubis (Telkom University, Indonesia); Hanif Fakhrurroja (National Research and Innovation Agency, Indonesia & Telkom University, Indonesia)

**10:00** ***Corporate ICT Governance of Indonesian State-Owned Companies: Governance Structure and Decision Making Archetype***
Fahdi Saidi Lubis (Universitas Telkom, Indonesia); Villy Satria Praditha and Muharman Lubis (Telkom University, Indonesia); Hanif Fakhrurroja (National Research and Innovation Agency, Indonesia & Telkom University, Indonesia); Muhammad Fakhrul Safitra (Telkom University, Indonesia); Arif Ridho Lubis (Politeknik Negeri Medan, Indonesia); Moh Adli Akbar (Telkom University, Indonesia)

**10:15** ***Navigating the Future: Exploring TOGAF's Potential in Enterprise Architecture with the Enterprise Continuum Framework***
Larasati Nur Intani and Asti Amalia Nur Fajrillah (Telkom University, Indonesia)

## Wednesday, October 11 9:00 - 10:45 (Asia/Kuala_Lumpur)

### Parallel 1A: Networking and Information Security

Chairperson: Assoc Prof Dr. Ani Liza Asnawi
Room: LANTANA

**9:00** ***An Empirical Study on Power Consumption of Decentralised Identity Management Systems***
Micky Yun Chan (Lappeenranta-Lahti University of Technology, Finland); Sian Lun Lau (Sunway University, Malaysia); Jari Porras (Lappeenranta University of Technology, Finland)

**9:15** ***Survey on Security Attacks in Connected and Autonomous Vehicular Systems***
S M Mostaq Hossain, Shampa Banik, Trapa Banik and Ashfak Md Shibli (Tennessee Technological University, USA)

**9:30** ***Heuristic Analysis for Security, Privacy and Bias of Text Generative AI: GhatGPT-3.5 Case as of June 2023***
Takuho Mitsunaga (Toyo University, Japan)

**9:45** ***Intelligent Computing in Communication Networks: Challenges, Solutions, and Research Prospects***
Muhammad Fakhrul Safitra (Telkom University, Indonesia); Deyana Prastika Putri (Telkom & Telkom University, Indonesia); Fahdi Saidi Lubis (Universitas Telkom, Indonesia); Hanif Fakhrurroja (National Research and Innovation Agency, Indonesia & Telkom University, Indonesia); Villy Satria Praditha (Telkom University, Indonesia)

**10:00** ***Acquiring Digital Evidence from Health and Safety Devices***
Normaziah Abdul Aziz (International Islamic University Malaysia, Malaysia)

**10:15** ***Dynamic Android Malware Detection Using Temporal Convolutional Networks***
Abdurraheem Joomye and Mee Hong Ling (Sunway University, Malaysia); Kok-Lim Alvin Yau (Universiti Tunku Abdul Rahman, Malaysia)

**10:30** ***Transformer-Based Model for Malicious URL Classification***
Nguyet Quang Do and Ali Selamat (Universiti Teknologi Malaysia, Malaysia); Kok Cheng Lim (Universiti Tenaga Nasional, Malaysia); Ondrej Krejcar (University of Hradec Kralove & Faculty of Informatics and Management, Czech Republic); Nor Azura Md Ghani (University Teknologi MARA, Malaysia)

## Wednesday, October 11 9:00 - 9:45 (Asia/Kuala_Lumpur)

### Parallel 1B: Open Systems

Chairperson: Prof Dr. Nor Badrul Anuar Jumaat
Room: VERNONIA

**9:00** ***Real-Time UAV System Integration for Fire Detection and Classification***
Madiah BInti Omar, Rosdiazli Ibrahim and Kishore Bingi (Universiti Teknologi PETRONAS, Malaysia); Wan Muhammad Haikal Bin Wan Mohd Nadzri (Universiti Teknologi Petronas, Malaysia); Mochammad Faqih (Universiti Teknologi PETRONAS, Malaysia)

## Wednesday, October 11 9:45 - 10:30 (Asia/Kuala_Lumpur)

### Parallel 1B: Wireless, Ad Hoc and Sensor Networks

Chairperson: Prof Dr. Nor Badrul Anuar Jumaat
Room: VERNONIA

**9:45** ***Vehicle and Plate Detection for Intelligent Transport Systems: Performance Evaluation of Models YOLOv5 and YOLOv8***
Matheus Henrique Fonseca Afonso (National Institute of Telecommunication, Brazil); Eduardo Henrique Teixeira (Instituto Nacional de Telecomunicações, Brazil); Mateus R Cruz (Inatel, Brazil); Guilherme Pedro Aquino and Evandro Cesar Vilas Boas (Instituto Nacional de Telecomunicações, Brazil)

**10:00** ***A Modern Zikr Practice Through the Portable Digital Tasbih Solution***
Dahlila Putri Dahnil (UKM, Malaysia); Noor Imanudin Noor Hishamudin (Universiti Kebangsaan Malaysia, Malaysia)

**10:15** ***SLFL: A Server-Less Federated Learning Framework in Software Defined UAV Networks***
Syed Hussain Ali Kazmi (Universiti Kebangsaan Malaysia, Malaysia); Faizan Qamar (Universiti Kebangsaan Malaysia (UKM), Malaysia); Rosilah Hassan (Universiti Kebangsaan Malaysia & UKM, Malaysia); Kashif Nisar (Swinburne University of Technology, Sydney, New South Wales, Australia)

## Wednesday, October 11 10:30 - 11:00 (Asia/Kuala_Lumpur)

### Coffee Break

## Wednesday, October 11 11:00 - 12:30 (Asia/Kuala_Lumpur)

### Keynote 2: Mr Muhammad Arif Tukiman

From Technical Complexity to 'Few Clicks' Cloud Management Experience
Room: PLUMERIA

## Wednesday, October 11 12:30 - 2:00 (Asia/Kuala_Lumpur)

### Lunch

## Wednesday, October 11 2:00 - 3:00 (Asia/Kuala_Lumpur)

### Parallel 2A: Big Data Analytics

Chairperson: Dr Noor Fadhilah Ahmad Radi
Room: LANTANA

**2:00** ***A Prescriptive Analytics Framework for Banks' Loan Strategy Development: Indonesian Banks' Case Study***
Aznovri Kurniawan and Nur Iriawan (Institut Teknologi Sepuluh Nopember, Indonesia); Achmad Choiruddin (Institut Teknologi Sepuluh Nopember Surabaya, Indonesia)

**2:15** ***Methods for Extracting Opinion Trends to Promote the Experience in Determining the Authenticity of SNS Articles***
Ryo Onuma (Tsuda University, Japan); Hiroki Nakayama (Yamagata University, Japan); Tatsuya Nagase and Hiroaki Kaminaga (Fukushima University, Japan); Youzou Miyadera (Tokyo Gakugei University, Japan); Shoichi Nakamura (Fukushima University, Japan)

**2:30** ***Method of Generating the Summary of Discussions in Comments to Web News for Understanding Opinion Trends and Discussion Points***
Hiroki Nakayama (Yamagata University, Japan); Hiroki Wakabayashi (Fukushima University, Japan); Ryo Onuma (Tsuda University, Japan); Hiroaki Kaminaga (Fukushima University, Japan); Youzou Miyadera (Tokyo Gakugei University, Japan); Shoichi Nakamura (Fukushima University, Japan)

**2:45** ***Out-Of-Hospital Cardiac Arrest (OHCA) Prognostics Modelling Using Machine Learning Techniques***
Ahmad Hafiy Harizan, Shamimi A. Halim and Mohd Razif Shamsudin (Universiti Teknologi MARA, Malaysia); Rashidi Ahmad (Universiti Sains Malaysia, Malaysia); Azlin Ahmad (Universiti Teknologi MARA, Malaysia)

### Parallel 2C: e-Learning, e-Management and e-Services Tracks

Chairperson: Assoc Prof Dr Sim Tze Ying
Room: PLUMERIA

**2:00** ***Unified Theory Acceptance and Use of Technology Against Unplugged Computational Thinking Activities***
Izzah Sakinah Ahmad and Tze Ying Sim (Sunway University, Malaysia); Corrienna Abdul Talib (University Teknologi Malaysia, Malaysia)

**2:15** ***Revolutionizing Enterprise Architecture: Unleashing TOGAF's Potential with the Architecture Content Framework***
Wardah Marwa Hanifah and Asti Amalia Nur Fajrillah (Telkom University, Indonesia)

**2:30** ***Application of Blockchain Technology in the Management of Waqf Institutions: Concepts, Challenges and Recommendations***
Norsaremah Salleh (International Islamic University Malaysia, Malaysia); Salina Kassim (Universiti Islam Antarabangsa, Malaysia); Niaz Makhdum Muhammad, Syarah Syahira Mohd Yusoff, Nur Farhah Mahadi and Kartina Md Ariffin (International Islamic University Malaysia, Malaysia)

**2:45** ***Assessing Students' Intentions to Read Online Newspapers Using TAM and TTF Approaches***
Rini Sari (Binus University, Indonesia)

### Parallel 2B: Postgraduate Symposium

Chairperson: Dr Nurain Ibrahim
Room: VERNONIA

**2:00** ***Analyzing the Impact of News Polarity on Stock Market Price Forecasting***
Amirhossein Heidarian (Universiti Sains Malaysia, Malaysia); Nurul Hashimah Ahamed Hassain Malim (Univerisiti Sains Malaysia, Malaysia)

**2:15** ***A Futuristic Proposed Solution to a Global Challenge: The Promise of AI for Social Distancing Compliance***
Yi Pei Ng, Chi Wee Tan, Ts. and Yiqi Tew (Tunku Abdul Rahman University of Management and Technology, Malaysia)

**2:30** ***Investigation of Graph Modeling for Data Virtualization of SQL and NoSQL Databases***
Merve Erdogmus (Central Queensland University & Lumi, Australia); Andrew Chiou and Jahan Hassan (Central Queensland University, Australia)

**2:45** ***Analysis of Network Access Behaviour Preferences and Its Impact on Campus Networks QoS in Chinese Vocational Colleges***
Zhang Lei (Universiti Teknologi MARA & Anhui Business and Technology College, China); Nor Shahniza Kamal Bashah (Universiti Teknologi MARA, Malaysia)

## Wednesday, October 11 3:00 - 3:30 (Asia/Kuala_Lumpur)

### Networking Session

## Wednesday, October 11 3:30 - 4:30 (Asia/Kuala_Lumpur)

### Parallel 3A: Big Data Analytics

Room: LANTANA

### Parallel 3C: Graphic and Interactive Media

Chairperson: Dr Siti Afiqah Muhamad Jamil
Room: PLUMERIA

**3:30** ***A Comprehensive Object Detection Model Empowered with Deep Learning***
Anudeep Reddy Bavanthula (B V Raju Institute of Technology, India); Murali Krishna Asoori, DurgaPrasad Reddy Chintakunta and Anirudh Volki (BV Raju Institute of Technology, India); G Ramani (India)

**3:45** ***Emotional Kansei Words for Digital and Pervasive Product Design***
Nik Azlina Nik Ahmad (Universiti Kuala Lumpur, Malaysia); Anitawati Mohd Lokman (Universiti Teknologi MARA, Malaysia); Munaisyah Abdullah (Malaysia Institute of Information Technology, Malaysia); Ahmad Iqbal Hakim Suhaimi (Universiti Teknologi MARA, Malaysia)

**4:00** ***Schematic Edge Detection of Power Distribution Networks Using the Canny, Sobel, Robert, and Prewitt Algorithms***
Aviv Yuniar Rahman (Asia e University, Malaysia & Universitas Widyagama Malang, Indonesia); Zuhaina Zakaria (Universiti Teknologi MARA, Malaysia)

**4:15** ***Deep Learning Food Detection and Calories Counter***
Shafaf Ibrahim and Wan Muhamad Arif Aiman Wan Hasnan (Universiti Teknologi MARA, Malaysia); Nor Azura Md Ghani (University Teknologi MARA, Malaysia); Khyrina Airin Fariza Abu Samah and Nur Nabilah Abu Mangshor (Universiti Teknologi MARA, Malaysia); Ahmad Firdaus Ahmad Fadzil (Universiti Teknologi MARA Jasin, Malaysia)

### Parallel 3B: Postgraduate Symposium

Chairperson: Dr Mahayaudin Mansor
Room: VERNONIA

**3:30** ***BoZFEx - A New Feature Extraction Based on Bounded-Zone Method for Handwriting Character Recognition***
Nur Intan Raihana Ruhaiyem and Nik Nur Adlin Nik-Qausbee (Universiti Sains Malaysia, Malaysia)

**3:45** ***Suicide Ideation Assessment with Attention Mechanism and Spiking Neural Network***
Corrine Francis (Universiti Malaysia Sarawak, Malaysia); Abdulrazak Yahya (University Malaysia Sarawak, Malaysia)

**4:00** ***A Survey on Energy-Aware Task Scheduling Approaches for Cyber-Physical Systems Using Machine Learning***
Mohamad Walid Shobak, Suhaimi Abd Ishak and Hariz Syafiq Ahmad Kamal (Universiti Tun Hussein Onn Malaysia, Malaysia)

**4:15** ***Examining the Role of Natural Language Processing in Generating Topics from Web Content***
Hamza H. M. Altarturi and Muntadher Saadoon (University of Malaya, Malaysia); Nor Badrul Anuar (Universiti Malaya & Universiti Tenaga Nasional, Malaysia)

# Thursday, October 12

## Thursday, October 12 8:00 - 9:00 (Asia/Kuala_Lumpur)

### Registration

## Thursday, October 12 9:00 - 10:30 (Asia/Kuala_Lumpur)

### Parallel 1A: Big Data Analytics

Chairperson: Dr Nurain Ibrahim
Room: LANTANA

**9:00** ***Selecting Machine Learning Students' Performance Prediction Models in Compliance with Pedagogical Objectives***
Ijaz Khan (Universiti Tenaga Nasional (UniTen), Malaysia & Buraimi University College, Oman); Mohd Hazli Mohamed Zabil and Kok Cheng Lim (Universiti Tenaga Nasional, Malaysia); Muhammad Sufyian Mohd Azmi (University Tenaga Nasional, Malaysia)

**9:15** ***Towards the Selection of Distance Metrics for k-NN Classifier in Students' Performance Prediction Modeling***
Ijaz Khan (Universiti Tenaga Nasional (UniTen), Malaysia & Buraimi University College, Oman); Mohd Hazli Mohamed Zabil (Universiti Tenaga Nasional, Malaysia); Muhammad Sufyian Mohd Azmi (University Tenaga Nasional, Malaysia); Kok Cheng Lim (Universiti Tenaga Nasional, Malaysia)

**9:30** ***Convective Cloud Classification System Using Convolution Neural Network***
Madiah BInti Omar and Rosdiazli Ibrahim (Universiti Teknologi PETRONAS, Malaysia); Suraj Sambaragi (Sheshgiri College of Engineering and Technology, India); Kishore Bingi (Universiti Teknologi PETRONAS, Malaysia); Umesh B. Deshannavar (KLE M. S. Sheshgiri College of Engineering and Technology, Udyambag, Belagavi & Visvesvaraya Technological University, Belgaum, India); Mohd Azrizan Bin Anawar (Universiti Teknologi PETRONAS, Malaysia)

**9:45** ***Sentiment Analysis on Mixed-Language Social Media Post***
Nor Zakiah Binti Gorment (Universiti Tenaga Nasional & Universiti Teknologi Malaysia, Malaysia); Faridah Hani Mohamed Salleh (Universiti Tenaga Nasional & College of Computing & Informatics, Malaysia)

**10:00** ***Development of Banana Image Retrieval Based on Its Class Using the CNN Model and Image Distance***
Haris Rangkuti, Mr (Bina Nusantara University, Indonesia); Sian Lun Lau (Sunway University, Malaysia); Varyl Athala Hasbi, Farrel Haridhi Indallah and Rudi Aryanto Aryanto (Bina Nusantara University, Indonesia)

### Parallel 1B: e-Learning, e-Management and e-Services Tracks

Chairperson: Dr Noor Fadhilah Ahmad Radi
Room: VERNONIA

**9:00** ***A Systematic Literature Review: Metaverse in Educational Learning for TVET Student***
Noorrezam Yusop (Universiti Teknikal Malaysia Melaka, Malaysia); Haslinawati Mohd Mustapha, Nur Idayu Ah Khaliludin, Norrlaili Shapiee, Nur Ilyana Ismarau Tajuddin and Maizatul Farisah Mohd Mokhtar (Universiti Sains Islam Malaysia, Malaysia)

**9:15** ***What Do Users Complain About with Mobile App with Payment Feature in Malaysia?***
Rubijesmin Abdul Latif (Universiti Tenaga Nasional, Malaysia)

## Parallel 1C: Graphic and Interactive Media

Chairperson: Dr Siti Afiqah Muhamad Jamil
Room: PLUMERIA

**9:00** ***Intangible Cultural Dance Preservation Using Virtual Reality 360-Degree Video***
Nooralisa Mohd Tuah (Creative Computing Research Group Faculty of Computing and Informatics, Unversiti Malaysia Sabah Labuan F.T, Malaysia); Ryan Macdonell Andrias (Unversiti Malaysia Sabah, Malaysia); Dg Senandong Ajor (University Malaysia Sabah, Malaysia); Wan Nooraishya Wan Ahmad, Suaini Sura and Ahmad Rizal Ahmad Rodzuan (Universiti Malaysia Sabah, Malaysia); Zamhar Iswandono Ismail (Higher College of Technology, United Arab Emirates)

**9:15** ***Comparison of CNN Models for Optimizing Banana Image Classification***
Haris Rangkuti, Mr (Bina Nusantara University, Indonesia); Sian Lun Lau (Sunway University, Malaysia); Varyl Athala Hasbi (Bina Nusantara University, Indonesia); Jeremy Tantio Tantio (Tantio, Indonesia); Rudy Aryanto (Bina Nusantara University & Bina Nusantara, Indonesia); Farrel Haridhi Indallah (Bina Nusantara University, Indonesia)

**9:30** ***Performance Assessment of U-Net for Semantic Segmentation of Liquid Spray Images with Gaussian Blurring***
Wei Lun Lim (Sunway University, Malaysia); Matthew Y. W. Teow (PSB Academy, Singapore); Richard TK Wong, Refat Khan Pathan, Sian Lun Lau and Chiung Ching Ho (Sunway University, Malaysia); Luis Bravo (US Army Research Laboratory, USA); Rahul Babu Koneru (University of Maryland, USA); Prashant Khare (University of Cincinnati, USA)

**9:45** ***Application of Computer Vision Techniques to Identify Spray Primary Breakup Structures in High-Speed Flow***
Refat Khan Pathan, Wei Lun Lim, Sian Lun Lau and Chiung Ching Ho (Sunway University, Malaysia); Luis Bravo (US Army Research Laboratory, USA); Rahul Babu Koneru (University of Maryland, USA); Prashant Khare (University of Cincinnati, USA)

**10:00** ***User Interaction Development for Radiotherapy Virtual Reality Training Application***
Chan Vei Siang (Universiti Teknologi Malaysia, Malaysia); Andres Iglesias (University of Cantabria, Spain & Toho University, Japan); Farhan Mohamed and Faezah Mohd Salleh (Universiti Teknologi Malaysia, Malaysia); Habibollah Haron (Universiti Teknologi Malaysia & UTM, Malaysia); Najwa Ayuni Jamaludin (Universiti Teknologi Malaysia, Malaysia); Akemi Gálvez (University of Cantabria, Spain); Pedro J. Prada and Samuel Ruiz-Arrebola (Hospital Universitario Marqués de Valdecilla, Spain); Lihua You (Bournemouth University, United Kingdom (Great Britain))

# Thursday, October 12 10:30 - 11:00 (Asia/Kuala_Lumpur)

## Coffee Break

# Thursday, October 12 11:00 - 12:30 (Asia/Kuala_Lumpur)

## Keynote 3: Ts Dr. Mohd Hazli Mohamed Zabil

Energy Informatics: Big Data & AI in Smart Grid
**Energy Informatics is an emerging highly interdisciplinary and dynamic field of research to address challenges in energy transition, trend towards renewable energy that require essential contributions from the computer science community to maintain stability and security of supply, particularly for the smart electric power grid. The speaker will highlight the role of AI and Bid Data in smart grid.**

# Thursday, October 12 12:30 - 1:00 (Asia/Kuala_Lumpur)

## Closing & Award Ceremony

# Thursday, October 12 1:00 - 2:00 (Asia/Kuala_Lumpur)

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