2025 the 10th International Conference on Big Data Analytics

ICBDA2025 | www.icbda.org

2025 the 9th International Conference on Innovation in Artificial Intelligence

ICIAI2025 | www.iciai.org

2025

SINGAPORE

March 13-15, 2025

Nanyang Technological University (NTU@one-north)

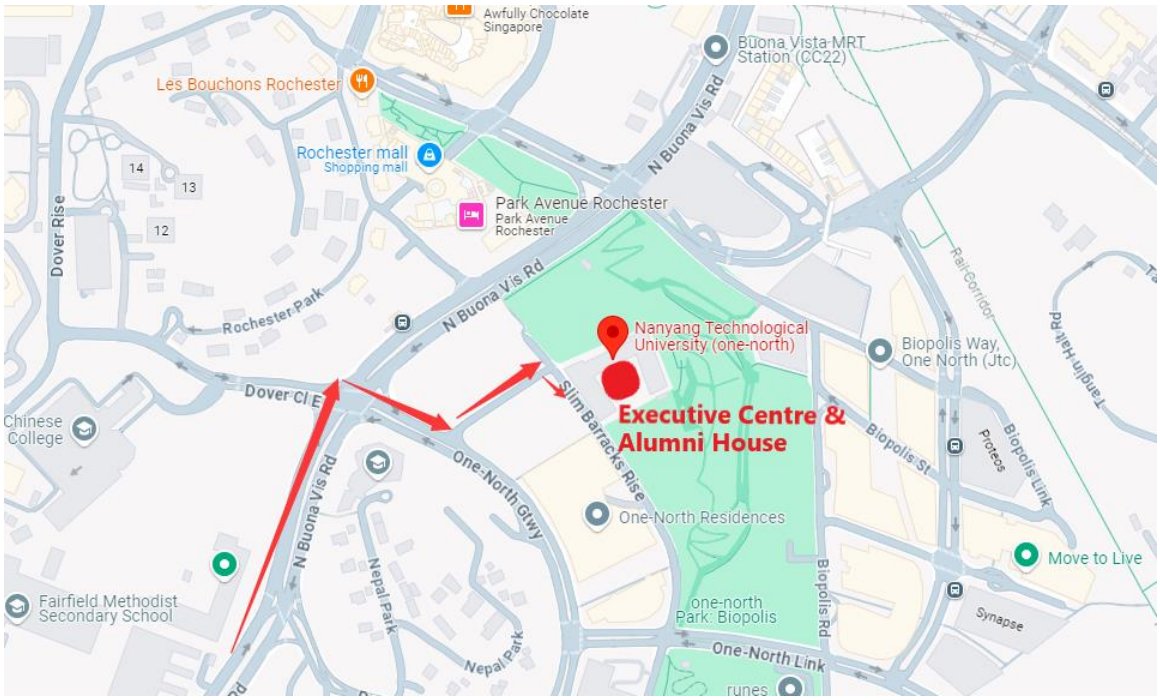
Address: 11 Slim Barracks Rise Singapore 138664

Contents

Conference Venue

Nanyang Technological University (NTU@one-north)
-the Executive Centre & the Alumni House-

Address:	**11 Slim Barracks Rise Singapore 138664** **https://maps.app.goo.gl/HNK9UPCvWLDHemZt5**
Directions by ar:	**Nearest expressway: AYE**
Directions by train:	**Buona Vista MRT (East-West / Circle Line)** **One-North MRT (Circle Line)** **Approximately 5 minutes by walk**

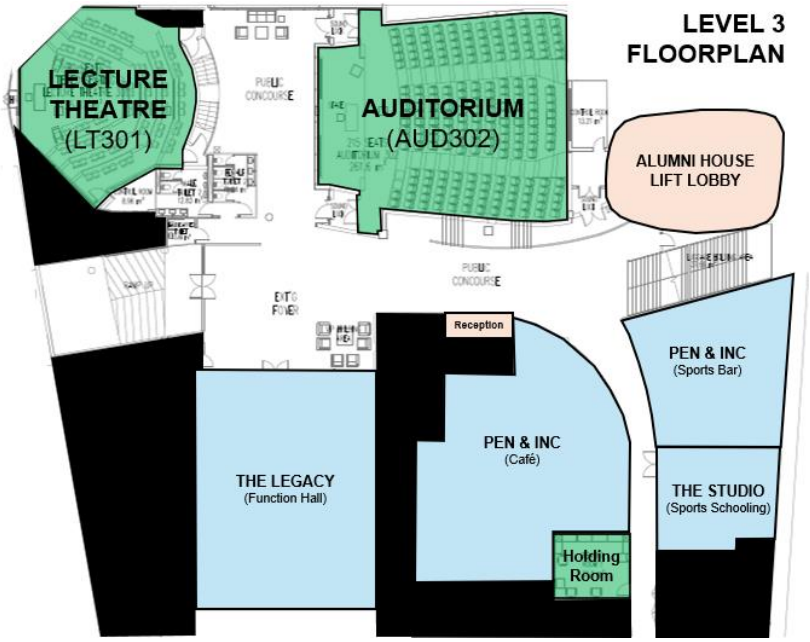


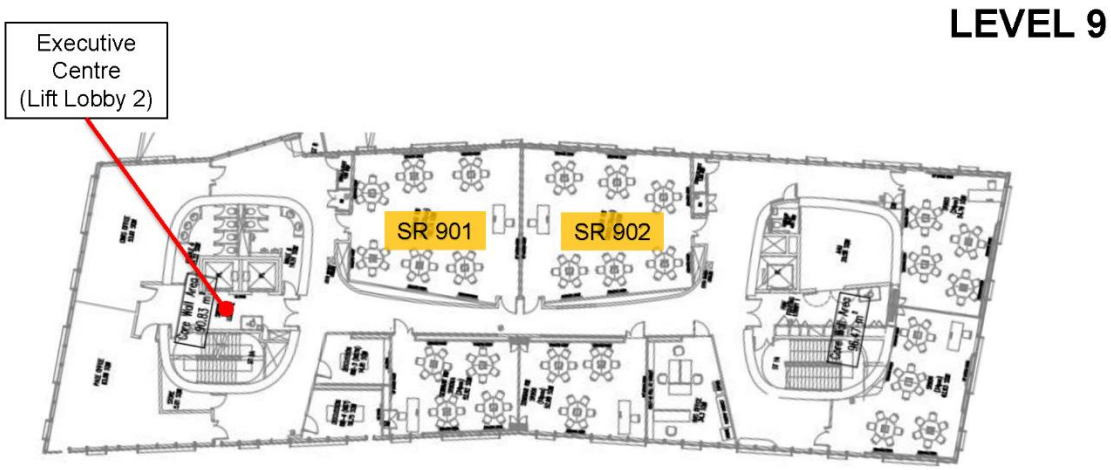
Conference Venue

Conference Rooms

The campus comprises of 2 wings – the Executive Centre and the Alumni House

- **March 13: 907 (Level 9 of Executive Centre)**
- **March 14: 301 (Level 3 of Alumni House), 901 & 902 (Level 9 of Executive Centre)**
- **March 15: 901 (Level 9 of Executive Centre)**





Dinner Banquet on March 14, 2025

Venue: PEN & INC, Cafe One-North at THE LEGACY

Address: 11 Slim Barracks Rise, #03-01/02, Singapore 138664

Onsite Guideline

Time Zone
UTC+8

Schedule
- ❑ **March 13: Sign-in and Conference Kits Collection ➔ 907 (Level 9 of Executive Centre)**
- ❑ **March 14: Keynote & Invited Speeches & Oral Sessions ➔ 301 (Level 3 of Alumni House), 901 & 902 (Level 9 of Executive Centre)**
- ❑ **March 15: Oral Sessions ➔ 901 (Level 9 of Executive Centre)**

Language
● Please make presentation and discuss in English.

Oral Presentation
- ➢ Keynote Speech: 45 mins (including Q&A).
- ➢ Invited Speech: 30 mins (including Q&A).
- ➢ Author Presentation: about 13 minutes for presentation and 2 minutes for Q&A.

● Please make sure your presentation is well timed. Please keep in mind that the program is full and that the speaker after you would like their allocated time available to them.

● Each speaker is required to meet her/his session chair in the corresponding session rooms 10 minutes before the session starts and copy the slide file (PPT or PDF) to the conference computer.

● Please note that each session room will be equipped with a LCD projector, screen, point device, microphone, and a laptop with general presentation software such as Microsoft PowerPoint and Adobe Reader. Please make sure that your files are compatible and readable with our operation system by using commonly used fronts and symbols. If you plan to use your own computer, please try the connection and make sure it works before your presentation.

● Videos: If your PowerPoint files contain video clips, please make sure that they are well formatted and connected to the main files.

Reminder
Please attend the conference in formal attire.
Safety Reminder: Secure Valuable Items at All Times.
We remind you to secure your personal belongings at all times.
The conference organizer will not be responsible for the loss or damage to any personal belongings.

Emergency Numbers
- ● Fire and Ambulance: 995
- ● Police: 999

Singapore Weather
https://www.weather.gov.sg/home/

Online Guideline

Time Zone
UTC+8

Platform | ZOOM

●Download Zoom from: https://zoom.us/download
●For Chinese Users: https://zoom.com.cn/download
●For Zoom skills: https://support.zoom.us/hc/en-us/articles/206618765-Zoom-Video-Tutorials

Test Sessions
Date: March 13, 2025
Prior to the formal meeting, presenters shall join the test room to ensure everything is on the right track.

Equipment & Environment Needed
- A computer with internet connection and camera
- Headphones
- Stable internet connection
- Proper lighting and background

Presentation Instructions
- Please make presentation and discuss in English.
- Author Presentation: about 13 minutes for presentation and 2 minutes for Q&A.

Attention Please
The conference will be recorded. We will appreciate your proper behavior.
Presentation Recording and Broadcasting:
The photograph(s) or video or audio recording(s) will be taken by conference organizer. It will be used in for conference program purpose. The photograph(s) or video or audio recording(s) will be destroyed after the conference, it cannot be distributed to or shared with anyone, it shall not be used for commercial nor illegal purpose. Each presentation will be recorded, if you don't want it, please inform our staff ahead of time.
Do not record other presenters' presentation nor distribute it to or share with anyone unless the presenter gives written consent of agree. Failure to do so will be considered a serious academic violation subject to disciplinary / lawful action.

Zoom ID
Room A: 853 1824 0450 https://us02web.zoom.us/j/85318240450
Room B: 896 6537 7897 https://us02web.zoom.us/j/89665377897

Conference Committees

Advisory Committee

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Fanwen Meng	National Healthcare Group	Singapore
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Shaoqing Guo	Northwest Normal University	China
Liang Zhao	Dalian University of Technology	China
Yong Li	Changchun University of Technology	China
Hsing-Hung Lin	Telecommunication Lab. Chunghwa Telcom. Co.	Taiwan

Conference Committees

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Naoki Mori	Osaka Metropolitan University	Japan
Kazuhisa Fukuzawa	Aichi Institute of Technology	Japan
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Joann G. Perez	Bulacan State University	Philippines
Elenita T. Caparino	Bulacan State University	Philippines
Dante L. Silva	Mapua University	Philippines
Sureena Matayong	Prince of Songkla University	Thailand
Somyot Kaitwanidvilai	King Mongkut's Institute of Technology Ladkrabang	Thailand
Aziz Hmioui	Sidi Mohamed Ben Abdellah University Fez	Morocco
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Shobha G	RV College of Engineering	India
Rajesh Mahadeva	Indian Institute of Technology	India
Sivasamy R	University of Botswana	Botswana
Sharmilan Somasundaram	Informatics Institute of Technology	Sri Lanka
Huynh Cong Viet Ngu	FPT University	Vietnam
Abdulrazaq Sanni	Ulster University	United Kingdom
Otmane Azeroual	German Centre for Higher Education Research and Science Studies (DZHW)	Germany

Program Outline

Day 1 | March 13, 2025 | Thursday | (UTC+8)		
Time	**Activity**	
10:00-12:00 **14:00-17:00**	**Venue: 907 (Level 9 of Executive Centre)** Sign-in and Conference Kits Collection for **Onsite Participants**	
	Online Test - Zoom	
14:00-17:00	**Room A: 853 1824 0450** https://us02web.zoom.us/j/85318240450	**Room B: 896 6537 7897** https://us02web.zoom.us/j/89665377897
	Session 11 BAI25-8202, BAI25-E09, BAI25-555, BAI25-8184, BAI25-3470, BAI25-5540, BAI25-8260 **Session 13** BAI25-0606, BAI25-5270, BAI25-2165 BAI25-4232, BAI25-6046, BAI25-553 BAI25-3798 **Session 15** BAI25-1735, BAI25-2119, BAI25-2422, BAI25-5610, BAI25-562, BAI25-E0214, BAI25-7771, BAI25-5425	**Session 12** BAI25-E407, BAI25-0425, BAI25-1383, BAI25-3510, BAI25-6765, BAI25-8414, BAI25-2047, BAI25-2078 **Session 14** BAI25-5437, BAI25-3231, BAI25-4872, BAI25-0120, BAI25-7269, BAI25-7471, BAI25-6839 **Session 16** BAI25-4469, BAI25-0893, BAI25-2727, BAI25-569, BAI25-560, BAI25-528, BAI25-557

Program Outline

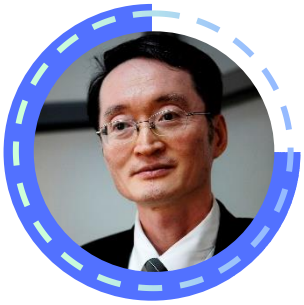
Day 2 | March 14, 2025 | Friday | (UTC+8)			
Time	**Activity**		
Venue: 301 (Level 3 of Alumni House)			
Host: Senior Assoc. Prof. Jionglong Su, Xi'an Jiaotong-Liverpool University (XJTLU), China			
9:00-9:05	 **Opening Remark & Welcome Address** Conference Chair – Prof. Sheng-Uei Guan, Xi'an Jiaotong-Liverpool University		
9:05-9:50	 **Keynote Speech - Prof. Jinjun Chen (IEEE Fellow)** Swinburne University of Technology, Australia ***"Composite DP: Bounded and Unbiased Composite Differential Privacy"***		
9:50-10:35	 **Keynote Speech - Prof. Erik Cambria (IEEE Fellow)** Nanyang Technological University, Singapore ***"7 Pillars for the Future of AI"***		
10:35-10:55	**Group Photo & Coffee Break**		
Host: Dr. Fanwen Meng, National Healthcare Group, Singapore			
10:55-11:25	 **Invited Speech - Prof. Tao Cheng** University College London, UK & The Alan Turing Institute, UK ***"Urban Big Data Analytics: From SpaceTimeAI to SpaceTime GenAI"***		
11:25-11:55	 **Invited Speech - Senior Assoc. Prof. Jionglong Su** Xi'an Jiaotong-Liverpool University (XJTLU), China ***"AI-assisted facial analysis in healthcare: From disease detection to comprehensive management"***		
11:55-12:25	 **Invited Speech - Assoc. Prof. Cheng Siong Lee (Vincent)** Monash University, Australia ***"Issues and challenges of Graph Representation Learning in Big Data Paradigm"***		
12:25-13:30	**Lunch Break**		
13:30-14:00	 **Invited Speech - Assoc. Prof. Michele Melchiori** University of Brescia, Italy ***"From Discovery to Trust: How can LLMs and Blockchain Empower (Big) Data Services?"***		
	301	**901**	**902**
14:00-15:30	**Session 1:** Computational Models and Optimization Algorithms	**Session 2:** Big Data Analysis, Management and Application	**Session 3:** Machine Learning Models and Algorithms
15:45-17:15	**Session 4:** Digital Image Analysis and Processing Methods	**Session 5:** Anomaly Detection and Security Protection in Modern Integrated Information Systems	**Session 6:** Image Detection and Classification Methods
18:00-20:00	**Dinner Banquet - Pen & Inc @ One North**		

Program Outline

Day 3 | March 15, 2025 | Saturday | (UTC+8)		
Time	**Activity**	
9:00-10:30	**Venue: 901**	**Session 7:** Model-based Data Analysis and Data Management
10:45-12:00		**Session 8:** Image Detection and Classification Methods
12:00-13:00		**Lunch Break**
13:00-14:15		**Session 9:** Language Models and Natural Language Processing
14:30-16:00		**Session 10:** Next-generation Artificial Intelligence Technology and Applications

Day 3 | March 15, 2025 | Saturday | (UTC+8) | Online		
Time	**Activity**	
	Room A: 853 1824 0450	**Room B: 896 6537 7897**
9:30-10:00	**Invited Speech - Dr. Armstrong Aboah** North Dakota State University, USA ***"Driving the Future: Big Data Analytics Transforming Transportation"***	
10:00-12:00	**Session 11:** AI based model design, algorithm optimization and intelligent application technology	**Session 12:** Big Data Architecture and Analysis
13:30-15:30	**Session 13:** Multimodal Language Analysis and Emotion Recognition	**Session 14:** Data Privacy and Security Management
15:45-17:45	**Session 15:** Machine Learning Theory and Computation	**Session 16:** Advanced Image Analysis and Computational Models

Conference Chair



Prof. Sheng-Uei Guan

Xi'an Jiaotong-Liverpool University, China

Steven Guan (Sheng-Uei Guan) received his BSc. from Tsinghua University and M.Sc. & Ph.D. from the University of North Carolina at Chapel Hill.

He is currently an Honorary Professor at University of Liverpool & also a Professor at Xi'an Jiaotong-Liverpool University (XJTLU). He served the head of department position at XJTLU for 4.5 years, creating the department from scratch and now in shape. Before joining XJTLU, he was a tenured professor and chair in intelligent systems at Brunel University, UK.

Prof. Guan has worked in a prestigious organization for several years, serving as a design engineer, project leader, and department manager. After leaving the industry, he joined the academia for three and half years. He served as deputy director for the Computing Center and the chairman for the Department of Information & Communication Technology. Later he joined the Electrical & Computer Engineering Department at National University of Singapore as an associate professor for 8 years.

There are quite a few inventions from Prof. Guan including Generalized Minimum Distance Decoding for Majority Logic Decodable Codes, Prioritized Petri Nets, Self-Modifiable Color Petri Nets, Dynamic Petri Net Model for Iterative and Interactive Distributed Multimedia Presentation, Incremental Feature Learning, Ordered Incremental Input/Output Feature Learning, Input/Output Space Partitioning for Machine Learning, Recursive Supervised Learning, Reduced Pattern Training using Pattern Distributor, Contribution Based Feature Selection, Incremental Genetic Algorithms, Incremental Multi-Objective Genetic Algorithms, Decremental Multi-objective Optimization, Multi-objective Optimization with Objective Replacement, Incremental Hyperplane Partitioning for Classification, Incremental Hyper-sphere Partitioning for Classification, Controllable Cellular Automata for Pseudorandom Number Generation, Self Programmable Cellular Automata, Configurable Cellular Automata, Layered Cellular Automata, Transformation Sequencing of Cellular Automata for Pseudorandom Number Generation, Open Communication with Self-Modifying Protocols, etc.

Research Interests

- machine learning, computational intelligence, big data analytics, mobile commerce, modeling, networking, personalization, security, coding theory, and pseudorandom number generation Big Data Analysis (SNS, Trustworthy, Recommendation, Authorship Identification)

Keynote Speaker

Prof. Jinjun Chen
Swinburne University of Technology, Australia (IEEE Fellow)

- **Venue: 301 (Level 3 of Alumni House)**
- **Time: 9:05-9:50, March 14, 2025 (UTC+8)**

Speech Title: Composite DP: Bounded and Unbiased Composite Differential Privacy

Biography: Dr Jinjun Chen is a Professor from Swinburne University of Technology, Australia. He holds a PhD in Information Technology from Swinburne University of Technology, Australia. His research interests include data privacy and security, cloud computing, scalable data processing, data systems and related various research topics. His research results have been published in more than 300 papers in international journals and conferences. He received various awards such as IEEE TCSC Award for Excellence in Scalable Computing and Australia's Top Researchers. He has served as an Associate Editor for various journals such as ACM Computing Surveys, IEEE TC, TCC and TSUSC. He is a MAE (Academia Europea) and IEEE Fellow (IEEE Computer Society). He is Chair for IEEE TCSC (Technical Community for Scalable Computing).

Abstract: The most kind of traditional DP (Differential Privacy) mechanisms (e.g. Laplace, Gaussian, etc.) have unlimited output range. In real scenarios, most datasets have bounded output range, e.g. age [0-150]. Users would then need to use post-processing or truncated mechanisms to forcibly bound output distribution. However, these mechanisms would incur bias problem which has been a long-known DP challenge, resulting in various unfairness issues in subsequent applications. A tremendous amount of research has been done on analyzing this bias problem and its consequences, but no solutions can solve it fully.

As **the world first solution** to solve this long-known DP bias problem, this talk will present a new innovative DP mechanism named **Composite DP**. It will first illustrate this long-known bias problem, and then detail the rational of the new mechanism and its example noise functions as well as their implementation algorithms. All source codes are publicly available on Github for any deployment or verification

Keynote Speaker

Prof. Erik Cambria

Nanyang Technological University, Singapore (IEEE Fellow)

- **Venue: 301 (Level 3 of Alumni House)**
- **Time: 9:50-10:35, March 14, 2025 (UTC+8)**

Speech Title: 7 Pillars for the Future of AI

Biography: Erik Cambria is a Professor at Nanyang Technological University, where he also holds the appointment of Provost Chair in Computer Science and Engineering, and Founder of several AI companies, such as SenticNet (https://business.sentic.net), offering B2B sentiment analysis services, and finaXai (https://finax.ai), providing fully explainable financial insights. Prior to moving to Singapore, he worked at Microsoft Research Asia (Beijing) and HP Labs India (Bangalore), after earning his PhD through a joint program between the University of Stirling (UK) and MIT Media Lab (USA). Today, his research focuses on neurosymbolic AI for interpretable, trustworthy, and explainable affective computing in domains like social media monitoring, financial forecasting, and AI for social good. He is ranked in Clarivate's Highly Cited Researchers List of World's Top 1% Scientists, is recipient of many awards, e.g., IEEE Outstanding Early Career, was listed among the AI's 10 to Watch, and was featured in Forbes as one of the 5 People Building Our AI Future. He is an IEEE Fellow, Associate Editor of various top-tier AI journals, e.g., Information Fusion and IEEE Transactions on Affective Computing, and is involved in several international conferences as keynote speaker, program chair and committee member.

Abstract: In recent years, AI research has showcased tremendous potential to impact positively humanity and society. Although AI frequently outperforms humans in tasks related to classification and pattern recognition, it continues to face challenges when dealing with complex tasks such as intuitive decision-making, sense disambiguation, sarcasm detection, and narrative understanding, as these require advanced kinds of reasoning, e.g., commonsense reasoning and causal reasoning, which have not been emulated satisfactorily yet. The Seven Pillars for the future of AI (https://sentic.net/7-pillars-for-the-future-of-ai.pdf) address these shortcomings and pave the way for more efficient, scalable, safe and trustworthy AI systems.

Invited Speaker

Prof. Tao Cheng
University College London, UK & The Alan Turing Institute, UK

- **Venue: 301 (Level 3 of Alumni House)**
- **Time: 10:55-11:25, March 14, 2025 (UTC+8)**

Speech Title: Urban Big Data Analytics: From SpaceTimeAI to SpaceTime GenAI

Biography: Tao Cheng (HDR, PhD, FRGS, FICE, CEng) is a Professor of Geoinformatics in the Department of Civil, Environmental, and Geomatics Engineering at University College London (UCL). She serves as the Theme Lead for Mobility at the Alan Turing Institute and is a member of the College of Experts (CoE) for the Department for Transport, UK. She is also the Founder and Director of UCL SpaceTimeLab (www.ucl.ac.uk/spacetimelab), a world-leading research center that leverages SpaceTimeAI to gain actionable insights and foresights from spatio-temporal data for government, business, and society.

Her research interests span AI and Big Data, network complexity, and urban analytics with applications in transport and mobility, safety and security, business intelligence, and natural hazards prevention. She has secured more than £25M in research grants in the UK and EU, collaborating with government and industrial partners in the UK, including Transport for London, the London Metropolitan Police Service, Public Health England, and Arup, among others. She has published over 300 research articles and received numerous international best paper awards. Please refer to https://profiles.ucl.ac.uk/10774 for further details.

Abstract: This talk explores the evolution of urban big data analytics from SpaceTimeAI to SpaceTime Generative AI (ST GenAI), demonstrating how the integration of spatiotemporal modelling, network-based structures, and generative AI is reshaping urban analytics. Traditional SpaceTimeAI has advanced predictive modelling in urban systems, with applications in transport, mobility, and crime prevention. However, ST GenAI goes beyond prediction to generation—"Models Here and Now, Insights Everywhere and Beyond."

We will showcase advancements in transformer-based fusion of “Big” and “Small” data, graph-based deep learning for cross-city prediction, and spatial representation learning using urban Points of Interest (POIs). By incorporating generative AI with space-time dynamics, ST GenAI opens new possibilities for mobility optimisation, infrastructure resilience, and sustainable urban development.

Invited Speaker

Senior Assoc. Prof. Jionglong Su
Xi'an Jiaotong-Liverpool University (XJTLU), China

- **Venue: 301 (Level 3 of Alumni House)**
- **Time: 11:25-11:55, March 14, 2025 (UTC+8)**

Speech Title: AI-assisted facial analysis in healthcare: From disease detection to comprehensive management

Biography: Dr Jionglong Su is the director of Education and R&D Institute, School of AI and Advanced Computing. He is concurrently the Taicang School Programme Leader in BEng Data Science and Big Data Technology. He holds a PhD in Statistics (Warwick) and a PhD in Automatic Control and Systems Engineering (Sheffield). Before joining XJTLU, he worked for Warwick University, University College London and Nazarbayev University where he was the Maths Head. Dr Jionglong Su has held several key appointments in the Department of Mathematical Sciences, such as the Group Head in Undergraduate Studies and the Programme Director in Financial Mathematics. His research interests include bioinformatics, artificial intelligence, portfolio management and medical image processing. He is the principal investigator and research collaborator in several interdisciplinary research funded by the National Nature Science Foundation of China and State Key Laboratory of Software Architecture, with more than 4.5 million RMB in grant. Dr Jionglong Su actively participates in the university iLead teaching programmes as an instructor for Chinese universities teachers. He was the recipient of the 2017 XJTLU Outstanding Teacher Award. He received the Excellent Advisor Award in the 4th XJTLU Research-Led Learning Competition.

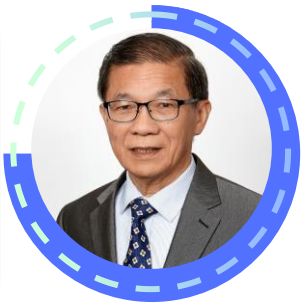
Abstract: Medical conditions and systemic diseases often manifest as distinct facial characteristics, making identification of these unique features crucial for disease screening. However, detecting diseases using facial photography remains challenging because of the wide variability in human facial features and disease conditions. The

integration of artificial intelligence (AI) into facial analysis represents a promising frontier offering a userfriendly, non-invasive, and cost-effective screening approach. In this talk, we shall explore the potential of AI-assisted facial analysis for identifying subtle facial phenotypes indicative of health disorders. First, we outline the technological framework essential for effective implementation in healthcare settings. Subsequently, we discuss the role of AI-assisted facial analysis in disease screening. Despite its promise, the adoption of this technology faces several challenges, including privacy concerns, model accuracy, issues with model interpretability, biases in AI algorithms, and adherence to regulatory standards. Addressing these challenges is crucial to ensure fair and ethical use. By overcoming these hurdles, AI-assisted facial analysis can empower healthcare providers, improve patient care outcomes, and enhance global health.

Invited Speaker

Assoc. Prof. Cheng Siong Lee (Vincent)
Monash University, Australia

- **Venue: 301 (Level 3 of Alumni House)**
- **Time: 11:55-12:25, March 14, 2025 (UTC+8)**



Speech Title: Issues and challenges of Graph Representation Learning in Big Data Paradigm

Biography: Vincent CS Lee is currently an Associate Professor (top Level D professorial), whichis equivalent to "Full Professor of North America Academic Scheme" with the Department of Data Science and Artificial Intelligence, Faculty of IT, Monash University in Melbourne, Australia. Lee earned PhD degree from The University of Newcastle, NSW in Australia, Bachelor and Master degrees in EEE, both from the National University of Singapore; MBA from Henley Management College in Oxford, Brunel University, England; BBus (Hons 1st class in Economics & Finance) and MBus (Accountancy), both from RMIT University in Melbourne. He is an elected Fellow of The Institute of Engineers, Australia (FIEAust), a Senior Member of IEEE (USA). Recipient of 2016 Monash University's Dean of IT excellence in Postgraduate Supervision. His research fields are Automated Machine Learning; Generative AI; Multimodal ChatGPT; Signal and Information Processing; Climate Financial Systems; and Educational Data Mining.

Abstract: In the big data environment, graph data structure represented in Graph Neural Networks (GNNs) has been commonly deployed. Real world graph data structure, however, suffers from incomplete, noisy, or entirely missing topology, which undermines the performance of traditional GNN. Often, a common practice is to the reliance on complete and accurate labelling in most GNNs methods, which present a significant bottleneck, as labelling is often costly, labour-intensive, or infeasible for large-scale or sensitive datasets. Another critical issue is the high computational cost of self-supervised GNNs, which limits their scalability and applicability in environments requiring quick and efficient computation. Addressing this efficiency challenge is key to enabling the deployment of Graph Representation Learning (GRL) methods in large-scale, resource-constrained scenarios. This challenge underscores the need for methods that can operate without such dependencies, paving the way for unsupervised or semi-supervised approaches in GRL. Furthermore, real-world graphs exhibit diverse structural properties and contextual scales across domains, making fixed-scale methods in selfsupervised graph contrastive learning insufficient to fully exploit their rich contextual information. Flexible, multi-scale approaches are necessary to adapt to varying demands of different datasets and enhance their learning potential. This talk discusses the issues and challenges by developing novel GRL method and analytics that function effectively in the presence of incomplete information. Specifically, four critical research questions are explored: (1) How can GRL be conducted without relying on labelling information? (2) How can selfsupervised GRL methods be enhanced to incorporate flexible and multi-scale contextual information? (3) How can the computational efficiency of current self-supervised GRL techniques be improved? (4) How can missing or incomplete graph topology be inferred and utilized for effective learning?

Invited Speaker

Assoc. Prof. Michele Melchiori
University of Brescia, Italy

- **Venue: 301 (Level 3 of Alumni House)**
- **Time: 13:30-14:00, March 14, 2025 (UTC+8)**

Speech Title: From Discovery to Trust: How can LLMs and Blockchain Empower (Big) Data Services?

Biography: Michele Melchiori is an Associate Professor at the Department of Information Engineering, University of Brescia, where he has been conducting research and teaching activities since 1998. He earned a Ph.D. in Information Engineering from the University of Brescia and a Master's Degree in Computer Science from the University of Milan, Italy.

His research interests include semantic-based technologies, data-driven approaches, information systems, blockchain, web services, and emerging applications such as LLM-RAG for service-based architectures, and data integration. He has worked on various funded competitive research projects in these areas.

He has been part of over 100 program committees of international computer science conferences and has also been involved in the organization of some international conferences. He serves on the editorial board of the Big Data and Cognitive Computing Journal and has been a member of the steering/advisory committees for international conferences on data mining and data semantics.

He co-authored the Best Paper at the 25th International Conference on Advanced Information Systems Engineering (CAiSE 2013) and the Best Paper at the 2nd EAI International Conference on ICT Infrastructures and Services for Smart Cities (IISSC 2017). Additionally, he has been active in industry dissemination, moderating panel discussions on blockchain and cybersecurity.

A partial list of publications can be found here http://tinyurl.com/mm-publications.

Abstract: Service-oriented architectures are essential for managing complex digital ecosystems, yet challenges in service discovery, composition, and trust remain open. This talk explores how Large Language Models (LLMs) and Blockchain can empower Big Data Services by enabling automated discovery and composition through Retrieval-Augmented Generation (RAG) while ensuring trust in cooperative processes. We compare resource-oriented and SOA-based approaches to modeling blockchain-based trust-demanding services and showcase LLM-driven architectures for building data service analytics pipelines in industrial applications. Through concrete examples, we illustrate how these technologies enhance transparency, efficiency, and security in articulated cooperative processes based on data services.

Invited Speaker

Dr. Armstrong Aboah
North Dakota State University, USA

- **Zoom ID: 853 1824 0450 https://us02web.zoom.us/j/85318240450**
- **Time: 9:30-10:00, March 15, 2025 (UTC+8)**

Speech Title: Driving the Future: Big Data Analytics Transforming Transportation

Biography: I am an Assistant Professor at the North Dakota State University. An ingenious and resourceful Transportation Data Scientist with a proven track record of success in research and hands-on experience developing cutting-edge database solutions, statistical modeling, data products, and computer vision systems aimed at improving transportation system management and operations. Has worked as an architect and application developer on a variety of projects that required the use of data mining and machine learning models to solve large-scale, complex, and difficult transportation problems.

I'm broadly interested in computer vision and machine learning. My research involves visual reasoning, vision and language, image generation, air taxis, naturalistic studies, and autonomous vehicles.

Abstract: Big data analytics is transforming transportation by enabling data-driven decision-making, improving safety, and optimizing mobility. The integration of machine learning, real-time analytics, and vast datasets from sensors, GPS, and connected vehicles has enhanced traffic management, autonomous systems, and infrastructure planning. Key applications include congestion prediction, demand forecasting, and intelligent transportation systems that optimize traffic flow, transit operations, and emergency response. Additionally, big data supports infrastructure planning by informing road maintenance and urban mobility strategies. Despite its benefits, challenges such as data privacy, computational scalability, and system integration remain. Ethical concerns, including algorithmic bias and equitable access, also require attention. This presentation examines the opportunities and challenges of big data in transportation, emphasizing the need for advanced analytics, secure data frameworks, and strategic policy development to enhance efficiency, adaptability, and sustainability.

Session 1

"Computational Models and Optimization Algorithms"

Chair: Prof. Lam Shao Wei Sean, National University of Singapore, Singapore

Time: 14:00-15:30, March 14, 2025	**Venue: 301 (Level 3 of Alumni House)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

14:00-14:15	**(BAI25-8921)** *A Noise Redistribution Model for Publishing Time Series of Classification Task* **Ai Ran**, Jinnan He, Xinyue Ren, Wai Kin (Victor) Chan Tsinghua Shenzhen International Graduate School, Tsinghua University, China
14:15-14:30	**(BAI25-513-A)** *A Two-Step Approach for Non-Fungible Token (NFT) Valuation Using Clustering and Hedonic Modeling* **Geun-Cheol Lee**, Hoon-Young Koo, Heejung Lee Konkuk University, South Korea
14:30-14:45	**(BAI25-522)** *Spatiotemporal Framework for Forecasting Energy Consumption in Smart Manufacturing Systems* **Abdulrazaq Sanni**, Sonya Coleman, Dermot Kerr, Justin Quinn Ulster University, United Kingdom
14:45-15:00	**(BAI25-533)** *A Depression Severity Prediction Model by Handwriting* **Hiroto Tanabe**, Masaomi Kimura Shibaura Institute of Technology, Japan
15:00-15:15	**(BAI25-3965A)** *On factor models for high-dimensional time series data: from the time-varying factor model to its joint estimation* **Xinyi Ren**, Yun Liu, Lianjie Shu University of Macau, Macau, China
15:15-15:30	**(BAI25-6236)** *Event-Driven Crowd Forecasting: Wi-Fi Sensing, Event Schedules, and Weather Data for Foot Traffic Prediction* **Kurumi Muto**, Akihisa Kodate, Noboru Sonehara, Nobuharu Hiruma Tsuda University, Japan

Group Photo & Best Presentation will be awarded during Dinner Banquet

Session 2

"Big Data Analysis, Management and Application"

Chair: Prof. Tao Cheng, University College London, UK

Time: 14:00-15:30, March 14, 2025	**Venue: 901 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

14:00-14:15	**(BAI25-0675)** *Calculate or Calculation with Intent to Deceive? —— A Critical Examination of the Phenomenon of "Big Data-Enabled Price Discrimination Against Existing Customers"* **Zhang Yu** Northwestern Polytechnical University, China
14:15-14:30	**(BAI25-3540)** *SDN-Based Network Monitoring for Real-Time Metrics and Network Adjustments with Big Data Technologies* **Vishal M Godi**, Hithesh S, Varun Kamath, Arushi Upmanyu, Animesh Giri PES University, India
14:30-14:45	**(BAI25-6018)** *Big Data in Tourism Destination Marketing Practices: The Case of Morocco* **Saad Ajdahim**, Aziz Hmioui Sidi Mohamed Ben Abdellah University, Morocco
14:45-15:00	**(BAI25-8276)** *A Lightweight Blockchain-Based Fair Trading Framework Combined with Lazy Dispute Accountability for Cloud Big Data Storage* **Chen Li**, Chih Hung Wang National Chiayi University, Taiwan
15:00-15:15	**(BAI25-8512)** *A Multi-Level Confidence LSTM Framework for Cultural Participation Prediction: Evidence from Regional Government Big Data Analytics in Taiwan* **Jhe-Wei Lin**, Huai-Wei Lo, Sheng-Wei Lin National Yunlin University of Science and Technology, Taiwan
15:15-15:30	**(BAI25-6499)** *Data Driven Retail Recommendations: A Study on Multi-Aspect Features for Enhanced Decision Making* **Arpita Bhattacharijee**, Ting Choo Yee Multimedia University, Cyberjaya, Malaysia

Group Photo & Best Presentation will be awarded during Dinner Banquet

Session 3

"Machine Learning Models and Algorithms"

Chair: Assoc. Prof. Cheng Siong Lee (Vincent), Monash University, Australia

Time: 14:00-15:30, March 14, 2025	**Venue: 902 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

14:00-14:15	**(BAI25-8431)** *Decentralizing Machine Learning with Blockchain: A Review* **Anupa Perera**, Sharmilan Somasundaram Informatics Institute of Technology, Sri Lanka
14:15-14:30	**(BAI25-8878)** *Applying Machine Learning And Ensemble Learning in Research of Predicting Orthopedic Surgery Duration* **Tan-Yun Tsai**, Mei-Hua Yu, Li-Ling Wang, Po-Chou Shih National Yunlin University of Science and Technology, Taiwan
14:30-14:45	**(BAI25-521)** *Predicting Discretionary Accrual: A Comparison between MD&A and Conference Call Scripts* **Yu-Feng Hsu**, Yi-Chen Huang National Chung Cheng University, Taiwan
14:45-15:00	**(BAI25-529)** *Efficient CNN Neural Architecture Search Using Multi-Layered Population Structure* **Kazuki Yabuuchi**, Naoki Mori Osaka Metropolitan University, Japan
15:00-15:15	**(BAI25-572)** *Efficient Neural Representations for Videos with Motion-aided Quality Enhancement* **Lulei Feng**, Ronggang Wang Peking University, China
15:15-15:30	**(BAI25-5010)** *Modeling Sentence Classification: Considering Syntactic Analysis and Position Embedding* **Meng Wang**, Zhixiong Zhang, Hanyu Li, Boran Li National Science Library, Chinese Academy of Science, China

Group Photo & Best Presentation will be awarded during Dinner Banquet

Session 4

"Digital Image Analysis and Processing Methods"

Chair: Senior Assoc. Prof. Jionglong Su, Xi'an Jiaotong-Liverpool University (XJTLU), China

Time: 15:45-17:45, March 14, 2025	**Venue: 301 (Level 3 of Alumni House)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

15:45-16:00	**(BAI25-5050)** *Recognizing Students' Emotions in Vietnamese Social Media Platforms* Thuy-Linh Ng, Phuong-Minh Ngo, Ha Linh T Nguyen, **Doan-Dong Nguyen,** Thi-Oanh Tran International School, Vietnam National University, Vietnam
16:00-16:15	**(BAI25-6337)** *Detection of Interstitial Lung Disease Lesions in CT Images Based on YOLOv8-seg and Atrous Spatial Pyramid Pooling* Jie-Ren Chen, Chi-Lun Weng, **Po-Chou Shih** National Yunlin University of Science and Technology, Taiwan
16:15-16:30	**(BAI25-526)** *LoRA-Based Image Generation for Reflecting Fashion Brand Characteristics Using Stable Diffusion* **Naoki Koizumi**, Naoki Mori Osaka Metropolitan University, Japan
16:30-16:45	**(BAI25-532)** *The Adversarial Defense Method with Illustrated Images in Road Sign Tasks* **Kanato Takahashi**, Masaomi Kimura Shibaura Institute of Technology, Japan
16:45-17:00	**(BAI25-5041)** *Point Cloud Segmentation Using Multi-Scale and Center-Aligned Cylindrical Voxel Features* **Changjian Tang**,Yinghua Zhou Chongqing University of Posts and Telecommunications, China
17:00-17:15	**(BAI25-0488)** *Using ChatGPT as a combined invoice OCR and key-value extractor* **Nemi Pelgrom**, Johan Hagelbäck, Morgan Ericsson, Håkan Grahn, Jonas Nordqvist Linnaeus University, Sweden
17:15-17:30	**(BAI25-534)** *Caption Generation for Garment Image Pair Comparison using Vision-Language Model with Attribute Relationships* **Kohei Abe**, Soichiro Yokoyama, **Tomohisa Yamashita**, Hidenori Kawamura Hokkaido University, Japan
17:30-17:45	**(BAI25-3227)** *Enhancing Detection and Segmentation of Medical Stones with a YOLO-based Two-Stage Method for Medical Imagin* Chen-En Ho, Chi-Lun Weng, **Po-Chou Shih** National Yunlin University of Science and Technology, Taiwan

Group Photo & Best Presentation will be awarded during Dinner Banquet

Session 5

"Anomaly Detection and Security Protection in Modern Integrated Information Systems"

Chair: Prof. Aziz Hmioui, Sidi Mohamed Ben Abdellah University Fez, Morocco

Time: 15:45-17:15, March 14, 2025	**Venue: 901 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

15:45-16:00	**(BAI25-4479)** *Secure Recommendation Systems (SeRecSys(): Integrating User Privacy, Data Integrity, and Trustworthiness* **Manoj Kumar**, Chaitali Choudhary, May ElBarachi University of Wollongong in Dubai, UAE
16:00-16:15	**(BAI25-4552)** *A Method for Extending Blockchain Anomaly Detection to Token Transactions* **Tomohiro Ojika**, Shin Morishima Toyama Prefectural University, Japan
16:15-16:30	**(BAI25-6606)** *Unsupervised Concept Drift Detection and Adaptation for Hashing Based Multivariate Time Series Anomaly Detection* **Takehiko Mizoguchi**, Yuji Kobayashi NEC Corporation, Japan
16:30-16:45	**(BAI25-7430)** D*RN with Addax Flamingo Optimization and Hashing based Malicious Profile Detection at Hypervisor-Based Environment* **Naga Seshu Kumar Anumukonda**, Rajesh Kumar Yadav, N S Raghava Delhi Technological University, India
16:45-17:00	**(BAI25-5615)** *Enhancing DDoS Attack Detection Through Hybrid Ensemble Machine Learning Technique and Explainable AI* **Anik Sen**, Swee-Huay Heng, Shing-Chiang Tan Multimedia University, Malaysia
17:00-17:15	**(BAI25-6095)** *Enhancing Code Vulnerability Detection Using CodeGraphBERT Deep Learning Techniques* **Zeinab Shahbazi**, Meshkat Mesbah, Seunghoon Woo Halmstad University, Sweden

Group Photo & Best Presentation will be awarded during Dinner Banquet

Session 6

"Image detection and classification methods" **Chair:**	
Time: 15:45-17:15, March 14, 2025	**Venue: 902 (Level 9 of Executive Centre)**
Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.	
15:45-16:00	**(BAI25-523)** *TagVisionNet: A Framework for Improving Chest X-ray Classification via Image-Label Feature Matching* **Yuning Shi**, Masaomi Kimura Shibaura Institute of Technology, Japan
16:00-16:15	**(BAI25-5448)** *PCB Defect Detection Using Deep Learning: A Comparative Performance Analysis* **Ezekias Segun Okupevi**, Sonya Coleman, Dermot Kerr, Justin Quinn Ulster University, United Kingdom
16:15-16:30	**(BAI25-563)** *Improving Learning Performance: Brightness-Contrast Effects on Fish Classification Models* **Maethinee Sognthai** King Mongkut's Institute of Technology Ladkrabang, Thailand
16:30-16:45	**(BAI25-559)** *MPNet: Boosting Infrared and Visible Image Fusion via Modality Adaptation and Phase Alignment* **Jun Dan**, Tao Jin, Hao Chi, Shunjie Dong Zhejiang University, China
16:45-17:00	**(BAI25-527)** *A novel lightweight Two-Level Edge-Enhanced Blind Image Super-Resolution Network* **Yunxiang Peng**, Chunling Yang South China University of Technology, China
17:00-17:15	**(BAI25-5617)** *Machine Learning for Child Face Detection: A Dual-Module Behavior Based Training Approach* **Somyot Kaitwanidvilai**, Nuttawat Khongbamphen King Mongkut's Institute of Technology Ladkrabang, Thailand
Group Photo & Best Presentation will be awarded during Dinner Banquet	

Session 7

"Model-based Data Analysis and Data Management"

Chair: Assoc. Prof. Michele Melchiori, University of Brescia, Italy

Time: 9:00-10:30, March 15, 2025	**Venue: 901 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

9:00-9:15	**(BAI25-2501A)** *Bibliometric analysis of Carotid Plaque Treatment Based on Literature Data Mining* **LI Peng**, LI Yan, CUI Xiao-yun, LIN Qian Dongzhimen Hospital Beijing University of Chinese Medicine, China
9:15-9:30	**(BAI25-3158)** *Improving the Quality of the B+-tree based on the MapReduce Framework* **Mai Anh Duy**, Tran Phu Tho, Huynh Cong Viet Ngu FPT University, Vietnam
9:30-9:45	**(BAI25-3801)** *Preserving Privacy in Wearable Devices: A Framework for Sensitive Activity Data Protection with Utility Retention* **Nattatorn Chuensangarun**, Prapaporn Rattanatamrong, Wanida Putthividhya Thammasat University, Thailand
9:45-10:00	**(BAI25-4425A)** *Progress and Recommendations in Data Ethics Governance: A Transnational Analysis Based on Data Ethics Frameworks* **QIU Yan-rui**, HU Zhi-min Peking Union Medical College, China
10:00-10:15	**(BAI25-9645)** *Self-Care Problems Classifications with SCADI Dataset: The Comparisons of Experimental Results* Sureena Matayong, **Akmal Benhawan**, Teeradej Phetkaew Prince of Songkla University, Thailand
10:15-10:30	**(BAI25-3597)** *A New Construction Method for B+-tree Data Structure with GPGPU* **Nguyen Minh Tri**, Khuu Trong Quan, Huynh Cong Viet Ngu FPT University, Vietnam
Group Photo & Best Presentation Award	

Session 8

"Social Network and Multimedia Application Technology"

Chair: Dr. Shin Morishima, Toyama Prefectural University, Japan

Time: 10:45-12:00, March 15, 2025	**Venue: 901 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

10:45-11:00	**(BAI25-536)** *Detecting Youth Mental Health Issues on Social Media with Deep Learning* Anh Que Thi Vu, Trang Thi Do, Diep Ngoc Bui, **Oanh Thi Tran** International School, Vietnam National University, Vietnam
11:00-11:15	**(BAI25-1515)** *Retweet Link Prediction in Social Networks through Enhanced Edge Feature Engineering* Raghavendra Kulkarni, **Giridhar Pamisetty**, Subbareddy Batreddy, Priya Verma, Ch Sobhan Babu Indian Institute of Technology Hyderabad, India
11:15-11:30	**(BAI25-3137)** *Exploring Protest-Related Social Network Dynamics: Combining the Power of Big-Data* with Agent-Based Simulation **Laurens H.F. Müter**, Christof van Nimwegen, Remco C. Veltkamp Utrecht University, Nationaal Politielab AI, the Netherlands
11:30-11:45	**(BAI25-545)** *JaccDiv: A Metric and Benchmark for Quantifying Diversity of Generated Marketing Text in the Music Industry* **Anum Afzal**, Alexandre Mercier and Florian Matthes Technical University of Munich, Germany
11:45-12:00	**(BAI25-9137A)** *Clustering and multidimensional evolution analysis of hot topics in online public opinion about energy companies—A case study of Sina Weibo* **Liu Chun**, Haoran Mao, Jiakun Wang, Jiaen Shangguan China University of Petroleum (East China), China
Group Photo & Best Presentation Award	

Session 9

"Language Models and Natural Language Processing"

Chair: Prof. Akihisa Kodate, Tsuda University, Japan

Time: 13:00-14:15, March 15, 2025	**Venue: 901 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

13:00-13:15	**(BAI25-1926)** *Knowledge Discovery from Scholarly Resources using Large Language Model and Knowledge Graph* **Jiao Li**, Guojian Xian, Yongwen Huang, Tan Sun Agriculutal Information Institute of CAAS, China
13:15-13:30	**(BAI25-515)** *Fine-Tuning Vision-Language Model for Automated Engineering Drawing Information Extraction* **Muhammad Tayyab Khan**, Lequn Chen, Ye Han Ng, Wenhe Feng, Nicholas Yew Jin Tan, Seung Ki Moon Nanyang Technological University, Singapore
13:30-13:45	**(BAI25-5741)** *Iterative Prompting with Persuasion Skills in Jailbreaking Large Language Models* **Shih-Wen Ke**, Guan-Yu Lai, Guo-Lin Fang, Hsi-Yuan Kao National Central University, Taiwan
13:45-14:00	**(BAI25-5047-A)** *An LLM-based Approach for Similar Patent Drawing Retrieval: Towards Efficient Technology Trend Analysis* **Kazuhisa Fukuzawa**, **Tokimasa Goto** Aichi Institute of Technology, Japan
14:00-14:15	**(BAI25-525)** *Correlate-MobileCap: A Framework for Diagnostic Report Generation Using Lesion and Disease Information* **Yuning Shi**, Masaomi Kimura Shibaura Institute of Technology, Japan
Group Photo & Best Presentation Award	

Session 10

"Next-generation Artificial Intelligence Technology and Applications"

Chair: Assoc. Prof. Christopher Harris, University of Northern Colorado, USA

Time: 14:30-16:00, March 15, 2025	**Venue: 901 (Level 9 of Executive Centre)**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

14:30-14:45	**(BAI25-E1-A)** *Overcoming Challenges and Developing a Strategic BluePrint for Integrating Generative AI in Business Operations* **Giulio Marchena Sekli**, Ivan De La Vega CENTRUM Católica Graduate Business School, Perú
14:45-15:00	**(BAI25-511)** *Quantum AI enhanced blockchain Security for Drug Discovery* **Don Roosan**, Tiffany Khou, Brian Pham, Yawen Li, Md Rahatul Ashakin, Hasiba Mashed Khan, Rubayat Khan, Mohammad Rifat Haider Merrimack College, USA
15:00-15:15	**(BAI25-516)** *AI in Medical Information Literacy Education:the Chanllenges and Responses* Li Yong, **Li Hongmei** The Library of Kunming Medical University, China
15:15-15:30	**(BAI25-512)** *AI-Generated Content for Project Proposal Development in Wenxin Yiyan and 360 Intelligent Brain* **Tao Wei**, Jia Hu, Qin Huang, Xia Zhao, Wei Liu, Ruihong Zhang Kunming Medical University, China
15:30-15:45	**(BAI25-E230)** *Knowledge mapping and evolutionary analysis: A case study in unmanned vehicle technology* **Xiao Tan**, Hui Li, Ting Zhang, Guiquan Xi, Xiaohong Jin, Shu Chen Beijing Academy of science and technology, China
15:45-16:00	**(BAI25-519)** *Analyses of Answers Provided by Artificial Intelligence to Questions in Evidence-Based Medicine: A Case Study for Wenxin Yiyan and 360 Intelligence Bain* **Xia Zhao**, Huang Qin, Wang Huaping, Wei Tao The Library of Kunming Medical University, China
Group Photo & Best Presentation Award	

Session 11

"AI based Model Design, Algorithm Optimization and Intelligent Application Technology"

Chair: Assoc. Prof. Yinghua Zhou, Chongqing University of Posts and Telecommunications, China

Time: 10:00-11:45, March 15, 2025	**Zoom ID: Room A: 853 1824 0450**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

10:00-10:15	**(BAI25-8202)** *Automated Live Migration of Containerised Applications in Multi Cloud with Algorithm for Selection of Cloud Provider* **Abhiraj**, A Sakthe Balan, Adithya Ganesh, Advay Agrawal, Prafullata K Auradkar PES University, India
10:15-10:30	**(BAI25-E09)** *Recommender Systems: Solving cold start using collaborative distance based Siamese Network* **Sachine More** Dollar General Corporation, United States
10:30-10:45	**(BAI25-555)** *Analysis of Artificial Intelligence Applications in Electric Power Systems* Weiqiang Qu, Yuliang Zhu, Chen Cao, Yanzhi Zhang, Zeyang Chen, Xinyao Wang, Chengdong Liu, **Wei Li**, Shenghui Shi Beijing University of Chemical Technology, China
10:45-11:00	**(BAI25-8184)** *Artificial Intelligence For Factor Investing: A Comprehensive Survey* **Qi Wu**, Anasse Bari, Rasmika Billa New York University, United States
11:00-11:15	**(BAI25-3470)** *Integrating Travel Behavior Forecasting and Generative Modeling for Predicting Future Urban Mobility and Spatial Transformations* **Eugene Denteh**, Andrews Danyo, Joshua K. Asamoah, Blessing Agyei Kyem, Twitchell Addai, Armstrong Aboah, North Dakota State University, United States
1:15-11:30	**(BAI25-5540)** *Predicting financial distress using Cosine Similarity un-der-sampling method: An empirical analysis based on Chinese listed companies* **Yalan ZHOU**, Jie MIAO, Yan FENG Army Logistics Academy, China
11:30-11:45	**(BAI25-8260)** *Foundation Model for Pavement Defect Detection: A Big Data-Driven Approach to Robust Road Condition Monitoring* Blessing Agyei Kyem, Joshua Kofi Asamoah, Twitchell Addai, **Eugene Denteh**, Andrews Danyo, Armstrong Aboah, North Dakota State University, United States North Dakota State University, United States
Group Photo & Best Presentation Award	

Session 12

"Big Data Architecture and Analysis"

Chair: Dr. Sureena Matayong, Prince of Songkla University, Thailand

Time: 10:00-12:00, March 15, 2025	**Zoom ID: Room B: 896 6537 7897**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

10:00-10:15	**(BAI25-E407)** *Analysis on the Evolution of Employment Population Residential Density in Urban Employment Centers Based on a Spatio Temporal Big Data Method* **Jining Zhang**, Kang Wang, Duanqiang Zhai Tongji University, China
10:15-10:30	**(BAI25-0425)** *Survey of Big Data Architectures and Frameworks on Kubernetes: Challenges, Solutions, and Future Directions* **Prashanth Josyula, Anant Kumar**, Gangadharayya Hiremath Salesforce, USA
10:30-10:45	**(BAI25-1383)** *Is Big Data-Driven Digital Inclusive Finance the Key to Boosting Corporate Innovation? An Empirical Analysis* Qianye Liu, **Xiaoyan Li** Nanjing University, China
10:45-11:00	**(BAI25-3510)** *Big Data Architecture for Large Organizations* **Fathima Nuzla Ismail**, Abira Sengupta, Shanika Amarasoma State University of New York at Buffalo, USA
11:00-11:15	**(BAI25-6765)** *Geospatial Big Data Analytics for Urban Construction Suitability: A Large-Scale Visualization Approach in the Yangtze River Delta* Duanqiang Zhai, Jian Zhuo, **Yanyun Mao** Tongji University, China
11:15-11:30	**(BAI25-8414)** *Big Data Based House Fire Detection and Alarm System* **Lin Wai Yan**, Nay Myo Aung Info Myanmar College, Myanmar
11:30-11:45	**(BAI25-2047)** *Big Data Analysis for Log Returns of Singapore Exchange Ltd (SGX: S68. SI)* **Sivasamy R** University of Botswana, Botswana
11:45-12:00	**(BAI25-2087)** *Webometrics Analysis of Citizens' Online Participation in Draft Law Consultations in China: A Case Study of the Law on the Protection of Women's Rights and Interests* **Han Zhengqi**, Liu Hongxia China University of Political Science and Law, China
Group Photo & Best Presentation Award	

Session 13

"Multimodal Language Analysis and Emotion Recognition"

Chair:

Time: 13:30-15:30, March 15, 2025	**Zoom ID: Room A: 853 1824 0450**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

13:30-13:45	**(BAI25-0606)** *Social Media Analysis for Mental Health Using Large Language Models* Nirmal Bhandari, **Sujing Wang** Lamar University, USA
13:45-14:00	**(BAI25-5270)** *Towards Safer Moderation: Evaluating LLM Moderators Through a Unified Benchmark Dataset and Advocating a Human-First Approach* **Naseem Machlovi**, Mariam Sleki, Innocent Ababio, Ruhul Amin Fordham, United States
14:00-14:15	**(BAI25-2165)** *DMCP: A Novel Debiasing Method Based on Contrastive Learning and Prompt Learning* **Haoyu Liang**, Junheng He, Jianghao Lin, Nankai Lin, Dong Zhou, Aimin Yang Guangdong University of Technology, China
14:15-14:30	**(BAI25-4232)** *Research on Entity Relation Extraction Based on Transformer Pre-trained Model* Ceyuan Liang, Zhaoying Chai, Lin Zhuo, Lin Yin, **Shenghui Shi** Beijing University of Chemical Technology, China
14:30-14:45	**(BAI25-6046)** *ESG news sentiment, liquidity, and stock returns: Evidence from China* **Yong Li**, Xueyuan Xu, Weifeng Zhu Guangdong University of Science and Technology, China
14:45-15:00	**(BAI25-553)** *A Novel Biomedical Named Entity Recognition Model Integrating BioBERT-BiLSTM-CRF Structure and GELUs Optimization* **Weiwen Ren**, Tao liu, Lin Zhuo, Shenghui Shi Beijing University of Chemical Technology, China
15:00-15:15	**(BAI25-9093)** *Sentiment-Enhanced Opinion Sentence Recognition Using AgriBERT-SentiDPCNN and Multi-Opinion Summarization via LLMs for Agricultural Scientific Literature* **Mengting Zhang**, Yajiao Wang, Yufei Wang, Zhixiong Zhang University of Chinese Academy of Sciences, China
15:15-15:30	**(BAI25-3798)** *Streamlining Research Information Management with Large Language Models: Automation, Analysis, and User-Centric Solutions* **Otmane Azeroual** German Centre for Higher Education Research and Science Studies (DZHW), Germany
Group Photo & Best Presentation Award	

Session 14

"Data Privacy and Security Management"

Chair: Prof. Sivasamy R, University of Botswana, Botswana

Time: 13:30-15:15, March 15, 2025	**Zoom ID: Room B: 896 6537 7897**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

13:30-13:45	**(BAI25-5437)** *Enhancing Data Quality and Integrity Through MDM in Distributed Systems* **Navadeep Vempati**, Balaji Thadagam Kandavel, Naga Harini Kode Independent researcher, MI, USA
13:45-14:00	**(BAI25-3231)** *Data Integration and Knowledge Graph Visualization for the Dispersion of Financial Data: A Case Study in Taiwan* Yin-Ying Chien, **Jian-An Wang** AcuSense Biomedical Technology Corp., Taiwan
14:00-14:15	**(BAI25-4872)** *Practical Exploration of Real Estate Valuation Course Based on Multi-Source Data Analysis: Coordinated Development of Urban Attraction and Commercial Housing Price Level* Zhu Lifang, **Duan Xiaoli**, Liu Yang, Li Haoyu, Chen Yang Wuhan University, China
14:15-14:30	**(BAI25-0120)** *Frameworks for Privacy and Governance: Safeguarding Health Data in Compliance with HIPAA Regulations* **Dorababu Nadella** Independent Researcher, Cumming, GA, USA
14:30-14:45	**(BAI25-7269)** *Quantifying technological field switching dynamics of enterprises* **Yi Zhang**, Shuqi Xu, Linyuan Lü University of Electronic Science and Technology of China, China
14:45-15:00	**(BAI25-7471)** *Feature Extraction and Similarity Search of Gait Data Using Tensor Decomposition* **Kazuki Nishimura**, Akio Ishida, Jun Murakami, Naoki Yamamoto National Institute of Technology, Kumamoto College, Japan
15:00-15:15	**(BAI25-6839)** *Leveraging QLC ZNS SSD for Caching High-Volume Tiny Objects* **Haolan Ouyang** Sun Yat-sen University, China
Group Photo & Best Presentation Award	

Session 15

"Machine Learning Theory and Computation"

Chair: Dr. Huynh Cong Viet Ngu, FPT University, Vietnam

Time: 15:45-17:45, March 15, 2025	**Zoom ID: Room A: 853 1824 0450**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

15:45-16:00	**(BAI25-1735)** *A Cost-Aware Multi-Cloud Scheduling Framework for Machine Learning Operations* **Sridhar Kumar Irujolla**, Ganapathi Yeleswarapu, H N V Sai Murali Krishna Tungala, Mahesh Shivnatri IEEE, Dallas Chapter, USA
16:00-16:15	**(BAI25-2119)** *A Neural Network Approach for Public Trip Frequency Dynamics Across Pandemic Stages in a Component City in Luzon, Philippines* **Laila Marie A. Lavandero**, Dante L. Silva, Kevin Lawrence M. de Jesus Mapua University, Philippines
16:15-16:30	**(BAI25-2422)** *Machine learning methods for crop pest incidence prediction: an example of greenhouse Tuta absoluta (Meyrick)* **Xin Chen**, Linwang Gao, Zuorui Shen China Agricultural University, China
16:30-16:45	**(BAI25-5610)** *Nonlinearity Between Random Time Series And Time Series Driven By Weierstrass-Mandelbrot Function* **Li Zhang** Shandong University, China
16:45-17:00	**(BAI25-562)** *Attention-driven Automatic speech Recognition: Comparative Analysisof Attention Mechanisms in RNN Architectures* **Yue zhu**, Yancong Deng Shanghai University of Engineering Science, China
17:00-17:15	**(BAI25-E0214)** *A Deep-Learning-Powered Pipeline for EEG-Based Dyslexia Detection Achieving ~94.66% Accuracy* **Nora Fink** Co-CEO ever-growing GmbH, Independent Research Dyslexia99, Burghausen, Germany
17:15-17:30	**(BAI25-7771)** *Unified Anchor Graph Learning in Multi-View Clustering with Global and Local Integration* Xianxian Xia, **Dong Huang**, Chaobo He South China Agricultural University, China
17:30-17:45	**(BAI25-5425)** *FineRAG: Instruction-Tuned AI with Optimized RAG and Self-Evaluation* **Mahima Arora**, **Fasal Shah** Red Hat India Pvt. Ltd., India

Group Photo & Best Presentation Award

Session 16

"Advanced Image Analysis and Computational Models"

Chair: Prof. Shobha G, RV University, India

Time: 15:45-17:30, March 15, 2025	**Zoom ID: Room B: 896 6537 7897**

Notes: The schedule of each presentation is for reference only. Presenters are required to attend the whole session, in case there may be some changes on conference day. Please join in the room 5-10 minutes earlier.

15:45-16:00	**(BAI25-4469)** *Divide and Compute: Distributed Model Offloading for Computation* Akhilesh M K, **Abhinav R Bharadwaj**, Nandan N Prabhu, Abhiram H A, Prafullata K Auradkar PES University, India
16:00-16:15	**(BAI25-0893)** *Mining Frequent Subgraphs in Temporal Quadruple Knowledge Graphs* **Jianjun Cao**, Peihao Wang, Nianfeng Weng, Zhen Yuan, Haoran He, Wenlong Hu The Sixty-Third Research Institute, National University of Defense Technology, China
16:15-16:30	**(BAI25-2727)** *Faster-Neus2: Neural Surface Representation Based on Cohesive Backpropagation Computation and Optimal Frame Selection* **Weijian Zhang**, Shuguang Tao Wuhan University of Technology, China
16:30-16:45	**(BAI25-569)** *Joint Extraction Method of Entity Relationships Based on Multi-level Annotation Framework* **Wenbin Shi**, Zhaoying Chai, Lin Yin, Shenghui Shi Beijing University of Chemical Technology, China
16:45-17:00	**(BAI25-560)** *PyraFuseNet: Adaptive Dual-Path Pyramid Fusion Network for Resource-Efficient Image Recognition* **Prathamesh Devadiga**, Kundhavai KR PES University, India
17:00-17:15	**(BAI25-528)** *Reasoning Is All You Need: Evaluating LLMs in Food Additive Classification and Explanation* **Hesam Saki**, Saba Eshraghi, Peyman Sar Sangi, Anahita Zarein, Haelthy B.VThe Netherlands; Tehran University, Iran
17:15-17:30	**(BAI25-557)** *Mobile Augmented Reality Application in Museums: A Catalyst for Impulse Buying of Cultural and Creative Products* Jingna Wang, **Zhuoxuan Fu**, Yini Li, Shuangshuang Wu, Mingguang Liu Nankai University, China
Group Photo & Best Presentation Award	

Posters

(BAI25-1112A) *Improvement of Bayesian Personalized Ranking method using AWSGLD algorithm*
Ah-Rim Joo, Sooyoung Cheon
Korea university, Korea

(**BAI25-7512A**) *Robust and Sparse PCA with the Huber Loss and a Non-Convex Penalty*
Yun Liu, Lianjie Shu, Xinyi Ren
University of Macau, Macau, China

(**BAI25-9823**) *Time Series Feature Redundancy Paradox: An Empirical Study Based on Mortgage Default Prediction*
Chengyue Huang, Yahe Yang
University of Iowa, USA

Delegates

- Subhojit Ghosh, Akamai, India
- Hyeon S. Son, Seoul National University, South Korea
- Guojian Xian, Agriculutal Information Institute of CAAS, China
- YOUHYUN PARK, Yonsei Wonju College of Medicine, South Korea
- Hidetomo Kaneyama, RIKEN, Japan
- Varun Kamath, PES University, India
- Hithesh S, PES University, India
- Shin Morishima, Toyama Prefectural University, Japan
- Akihisa Kodate, Tsuda University, Japan
- Chakkaphat Chamnanphan, Mae Fah Luang University, Thailand
- Aziz Hmioui, Sidi Mohamed Ben Abdellah University, Morocco
- Taisho Sasada, Nara Institute of Science and Technology, Japan
- Liting Hu, UCSC, USA
- Jeffery Vavier Allan, Nazareth University, United States
- Bing Zheng, Lanzhou University, China
- Prof. Dr.-Ing. Thorsten Benkner, FH Aachen University of Applied Sciences, Germany
- Ian Rodgers, Oxford University, United Kingdom
- Naoki Mori, Osaka Metropolitan University, Japan
- Ting Zhang, Beijing Academy of science and technology, China
- Hui Li, Beijing Academy of science and technology, China
- Saba Eshraghi, Tehran University, Iran

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