International Conference on Artificial Intelligence and Big Data Applications (AIBD 2023)

Conference Manual

19th-20th July 2023
Lingnan University, Hong Kong SAR

Lingnan University 嶺南大學 香港 Hong Kong

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CONTENTS

International Conference on Artificial Intelligence and Big Data Applications (AIBD 2023)

Introduction

The International Conference on Artificial Intelligence and Big Data Applications (AIBD) 2023 will be held in Tuen Mun, Hong Kong SAR, at Lingnan University, July 19 - 20, 2023. The conference aims to enhance the standards and external competitiveness of Hong Kong information and communications technology (ICT) professionals. The scientists in AIBD will introduce and discuss the cutting-edge knowledge and research trends about adopting AIBD techniques in domain-specific applications. World-leading scholars, researchers and technology development entrepreneurs in AIBD will demonstrate new technological advancements, exchange novel insights and explore potential research directions. The conference will be a platform for AIBD researchers and entrepreneurs to communicate and share their sustained efforts on technological development and open a window for researchers, entrepreneurs and students interested in AIBD to grasp the state-of-the-art technology from Hong Kong to the world.

The conference attracts distinguished scholars and outstanding entrepreneurs worldwide to deliver keynote and tutorial speeches. The keynote speakers include Prof. Qiang Shen from Aberystwyth University, Prof. Jiannong Cao from Hong Kong Polytechnic University, Prof. Gwo-Jen Hwang from NTU of Science and Technology, Prof. Amir Hussain from Edinburgh Napier University, Prof. Yanchun Zhang from Guangzhou University and Victoria University, and Prof. Guandong Xu from University of Technology Sydney. The conference also includes a poster sharing session for technology development entrepreneurs to showcase their latest projects in AIBD.

Organizing Committee

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Programme Rundown

Day 1

Time	Event	Topic
08:00 – 08:30	Registration	
08:30 – 08:40	Opening Remarks	
08:40 – 08:45	Group Photo	
08:45 – 10:15	Keynote Speech 1 **Prof. Qiang Shen**	**When There Is Little Data Can AI Still Work? -- Approximate Reasoning with Knowledge Interpolation and its Applications**
10:15 – 10:30	Refreshment Break	
10:30 – 12:00	Keynote Speech 2 **Prof. Yanchun Zhang**	**Smart Medicine: Medical Big Data / AI with Innovative Applications in Patient Monitoring, Disease Diagnosis, Prediction and Health Management**
12:00 – 13:30	Conference Lunch	
13:30 – 15:00	Keynote Speech 3 **Prof. Guandong Xu**	**Deep Learning-Based Automated Depression Detection Through Social Media**
15:00 – 16:00	Tutorial Speech 1 **Prof. Erik Cambria**	**Neurosymbolic AI for Explainable Sentiment Analysis**
16:00 – 16:15	Refreshment Break	
16:15 – 17:15	Tutorial Speech 2 **Prof. Yi Cai**	**Knowledge Graph Construction based on Multi-Modal Data**
17:15 – 18:15	Tutorial Speech 3 **Prof. Hui-Chun Chu**	**An Adaptive Game-Based Diagnostic and Remedial Learning System Based on the Concept Effect Model**
18:15 – 20:15	Conference Banquet (By Invitation Only)	

Day 2

Time	Event	Topic
08:00 – 08:30	Registration	
08:30 – 10:00	Keynote Speech 4 **Prof. Gwo-Jen Hwang**	**Pedagogical Theories and Applications of Artificial Intelligence in Education**
10:00 – 10:15	Refreshment Break	
10:15 – 11:45	Keynote Speech 5 **Prof. Jiannong Cao**	**Decentralized Data Infrastructure for Web3**
11:45 – 13:00	Conference Lunch	
13:00 – 14:00	Tutorial Speech 4 **Mr. Spencer Fung**	**Making Sense of AI: An Insider's Perspective on the Practicality of AI Today**
14:00 – 15:00	Tutorial Speech 5 **Prof. Tianyong Hao**	**Large-scale Clinical Trial Data Mining through Natural Language Processing**
15:00 – 15:15	Refreshment Break	
15:15 – 15:45	Poster Sharing & Discussion	
15:45 – 16:45	Tutorial Speech 6 **Prof. Xuemiao Xu**	**Knowledge-guided Scene Adaptive Understanding and Processing**
16:45 – 18:15	Keynote Speech 6 **Prof. Amir Hussain**	**Towards Trustworthy and Responsible AI: Real-world Use Cases, Challenges and Opportunities**
18:15 – 18:20	Closing Remarks	

Speech Abstract

Keynote Speech 1:
When There Is Little Data Can AI Still Work?
-- Approximate Reasoning with Knowledge Interpolation and its Applications

Prof. Qiang Shen

Professor and Pro Vice-Chancellor of Aberystwyth University, UK.

Abstract: AI is on the verge of revolutionising industries worldwide, having made huge strides over the last few years. Such achievements have been largely driven by the utilisation of deep learning techniques, which rely on processing vast amounts of data. However, a critical question arises when there is limited data available for a novel problem, particularly if that data is imprecisely described. Can AI still operate effectively under these circumstances? This talk aims to explore contributions that address this question.

It will showcase how fuzzy rule interpolation (FRI) facilitates approximate reasoning when dealing with incomplete or sparse knowledge derived from limited and imprecise data, where traditional rule-based AI methods also fail due to observations not matching any existing rules. FRI techniques have been extensively researched within the field of computational intelligence, resulting in various approaches. The focus of this talk will be on a popular subset of these known as Transformation-based FRI (T-FRI), which operate by mathematically transforming rules that share similarities with unmatched observations. Each technique within this group utilises linear transformations of the automatically selected nearest rules to the unmatched observation. This talk will begin with a review of the underlying, seminal T-FRI approach, followed by a brief introduction to its extended family, including: adaptive T-FRI, backward T-FRI, higher-order T-FRI, dynamic T-FRI and weighted T-FRI, each of which addresses some critical limitations of the original.

Subsequently, the talk will illustrate successful applications of these techniques, demonstrating their efficacy in resolving challenging problems such as network security and medical diagnosis. These examples will show that AI can still operate effectively even when faced with limited and imprecise data. Finally, the talk will conclude by outlining preliminary ideas for further development in this vital area of research.

Keynote Speech 2:
Smart Medicine: Medical Big Data / AI with Innovative Applications in Patient Monitoring, Disease Diagnosis, Prediction and Health Management

Prof. Yanchun Zhang

Professor of Victoria University, Australia & Guangzhou University, China

Abstract: Due to the recent development or maturation of database, data storage, data capturing, and sensor technologies, huge medical and health data have been generated at hospitals and medical organizations at unprecedented speed. Those data are a very valuable resource for improving health delivery, health care and decision making and better risk analysis and diagnosis. Health care and medical service is now becoming more data-intensive and evidence-based since electronic health records are used to track individuals' and communities' health information (particularly changes). These substantially motivate and advance the emergence and the progress of data-centric health data and knowledge management research and practice. In this talk, we will introduce several innovative data mining techniques and case studies to address the challenges encountered in e-health and medical big data. This includes techniques and development on medical data streams, correlation analysis, abnormally detection and risk predictions, including diagnosis of sleeping and mental health.

Keynote Speech 3:
Deep Learning-Based Automated Depression Detection Through Social Media

Prof. Guandong Xu

Professor of University of Technology Sydney, Australia

Abstract: Twitter is a widely used social media website that allows individuals to share their own content with the public. The data generated by users on this platform is extremely valuable for healthcare technology as it can reveal important patterns that can greatly benefit the field in multiple ways. An example application is the automatic identification of mental health issues such as depression. This talk aims to present our recent research of developing approaches to identify depression using online social media, particularly Twitter, and build prediction models that can identify users who are likely to be experiencing mental problems or displaying symptoms that might soon lead to mental disorders, and provide model explanations for better use. Case studies on mental status and evolution of depression people during COVID-19 are also reported.

Keynote Speech 4:
Pedagogical Theories and Applications of Artificial Intelligence in Education

Prof. Gwo-Jen Hwang

Chair Professor of NTU of Science and Technology, Taiwan

Abstract: The advancement of artificial intelligence (AI) technologies has attracted the attention of researchers around the globe. However, it remains a challenge for researchers and school teachers to apply AI technologies to school settings, not to mention designing AIED (Artificial Intelligence in Education) research or teaching plans with support from pedagogical theories. In this talk, Prof. Hwang is going to introduce the fundamental conceptions and applications of AI in school settings and professional training; following that, design principles of AIED research and relevant pedagogical theories are presented. In addition, several examples are given to demonstrate how to conduct quality AIED studies.

Keynote Speech 5:
Decentralized Data Infrastructure for Web3

Prof. Jiannong Cao

Dean and Chair Professor of The Hong Kong Polytechnic University, Hong Kong SAR

Abstract: In the platform-less Web3 world, users' data will no longer be held by centralized platforms, so the values of the data will be returned to the users. However, being platform-less poses unique challenges, especially in revolutionizing the underlying data infrastructure. For example, how data can be stored without a centralized database; how users collaborate to support necessary operations of creation, reading, and update of data; how the decentralized data can be retrieved with privacy, integrity, and high efficiency; how the emerging web3 requirements be met, including validation of data ownership and tracing of usage records? In this talk, I will present the latest research and development of decentralized web3 data infrastructure and answer the above questions. More specifically, I will summarize the requirements of web3 data infrastructure, categorize the unique challenges, and propose a web3 system architecture to address the challenges. I will also introduce some of our recent research towards building the infrastructure of Web3, including collaborative edge computing and blockchain-based data sharing.

Keynote Speech 6:
Towards Trustworthy and Responsible AI: Real-world Use Cases, Challenges and Opportunities

Prof. Amir Hussain

Professor of Edinburgh Napier University, UK

Abstract: World-leading multi-disciplinary research at Edinburgh Napier University in Scotland is pioneering the collaborative development of trustworthy and responsible artificial intelligence (AI) technologies to engineer the next-generation of smart industrial and healthcare systems. This talk will provide an introduction to these emerging technologies and outline a number of real-world use cases including future research directions and challenges.

Tutorial Speech 1:
Neurosymbolic AI for Explainable Sentiment Analysis

Prof. Erik Cambria

Associate Professor of Nanyang Technological University, Singapore

Abstract: With the recent developments of deep learning, AI research has gained new vigor and prominence. However, machine learning still faces three big challenges: (1) it requires a lot of training data and is domain-dependent; (2) different types of training or parameter tweaking leads to inconsistent results; (3) the use of black-box algorithms makes the reasoning process uninterpretable. At SenticNet, we address such issues in the context of NLP via sentic computing, a neurosymbolic approach that aims to bridge the gap between statistical NLP and the many other disciplines necessary for understanding human language such as linguistics, commonsense reasoning, and affective computing. Sentic computing is both top-down and bottom-up: top-down for the fact that sentic computing leverages symbolic models such as semantic networks and conceptual dependency representations to encode meaning in an explainable way; bottom-up because we use sub-symbolic paradigms such as multitask learning and prompt-based learning to infer syntactic patterns from data.

Tutorial Speech 2:
Knowledge Graph Construction based on Multi-Modal Data

Prof. Yi Cai

Professor and Dean of South China University of Technology, China

Abstract: Named entity recognition (NER) and relation extraction (RE) are two fundamental subtasks in knowledge graph construction task. Knowledge Graph Construction in social media posts is challenging since texts are usually short and contexts are lacking. Most recent works show that visual information can boost the named entity recognition (NER) and relation extraction (RE) performance since images can provide complementary contextual information for texts. In this talk, we introduce a serious models we proposed in multi-modal named entity recognition (MNER) and multi-modal relation extraction (MRE), and further propose jointly performing MNER and MRE as a joint multimodal entity-relation extraction task.

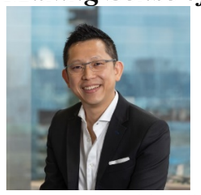
Tutorial Speech 3:
An Adaptive Game-Based Diagnostic and Remedial Learning System Based on the Concept Effect Model

Prof. Hui-Chun Chu

Distinguished Professor of Soochow University, Taiwan

Abstract: Although the game-based learning strategy has been widely adopted in educational settings, its potential for enhancing students' learning achievement and self-efficacy in mathematics education is still being explored. In mathematics courses, students generally need to face complex mathematics concepts and solve problems that could be challenging to them. Although learning in gaming contexts might enhance learning motivation or engagement, without efficiently personalized learning support, students may not be able to well learn those complex concepts. In this study, based on the concept-effect model, an adaptive game-based learning system were developed for diagnosing students' learning problems and provide personalized learning guidance to them. An experiment was conducted in an elementary school mathematics course to evaluate the effects of the proposed approach. The experimental results show that the proposed approach not only improves the efficiency of learning achievement, learning attitudes and self-efficacy of the students, but also reduces their cognitive load in the mathematics course.

Tutorial Speech 4:
Making Sense of AI: An Insider's Perspective on the Practicality of AI Today



Mr. Spencer Fung

CEO and Founder of Optix Solutions Limited, Hong Kong SAR

Abstract: In this talk, we will explore the practicality of artificial intelligence(AI) and provide an insider's perspective on where we stand today. We will cover the latest developments in AI applications implemented in Hong Kong, and discuss the current limitations and challenges facing the field. We will also examine the practical implications of AI, such as its impact on business operations, customer service, and decision-making, and discuss strategies for successfully implementing AI in real-world scenarios. Whether you are a business leader, data scientist, or simply curious about the technology, this talk will provide valuable insights into the practical applications of AI and its future potential.

Tutorial Speech 5:
Large-scale Clinical Trial Data Mining through Natural Language Processing

Prof. Tianyong Hao

Professor of South Normal China University, China

Abstract: Clinical trials generate highly relevant evidences for effective disease treatments. The extraction of necessary information from a large scale clinical trial text through natural language processing for patient characteristic aggregation remains a research problem due to the complex of the investigator-authored free-text. This talk will introduce the recent research on: an extensible approach for automated semantic tag mining, clinical trial clustering by similar eligibility criteria, disease named entity recognition, temporal expression extraction and normalization, transgender identification for enhancing clinical trial recruitment, and measurable quantitative information extraction and normalization.

Tutorial Speech 6:
Knowledge-guided Scene Adaptive Understanding and Processing

Prof. Xuemiao Xu

Professor and Deputy Dean of South China University of Technology

Abstract: The two-wheel drive of data and knowledge has become one of the important trends in the development of artificial intelligence. This talk is targeted towards national development strategies in fields such as intelligent transportation and intelligent manufacturing, focusing on the four major challenges faced by intelligent vision technology in real-world applications: complex scenarios, cross-domain scenarios, incomplete datasets and low-quality visual data, and introduces a series of innovative technologies for scene intelligent understanding and processing guided by prior knowledge.

Opening Remarks Speaker

Prof. S. Joe Qin

President-designate and Wai Kee Kau Chair Professor of Data Sciences of Lingnan University, Hong Kong SAR

Prof. S. Joe Qin obtained his B.S. and M.S. degrees in Automatic Control from Tsinghua University in Beijing, China, in 1984 and 1987, respectively, and his Ph.D. degree in Chemical Engineering from University of Maryland at College Park in 1992. He is currently President-Designate of Lingnan University in Hong Kong.

Prof. Qin is a Fellow of the U.S. National Academy of Inventors, the International Federation of Automatic Control (IFAC), AIChE, and IEEE. He is the recipient of the 2022 CAST Computing in Chemical Engineering Award by the American Institute of Chemical Engineers (AIChE), 2022 IEEE CSS Transition to Practice Award, the U.S. National Science Foundation CAREER Award, the 2011 Northrop Grumman Best Teaching award at Viterbi School of Engineering, the DuPont Young Professor Award, Halliburton/Brown & Root Young Faculty Excellence Award, NSF-China Outstanding Young Investigator Award, and recipient of the IFAC Best Paper Prize for a model predictive control paper published in Control Engineering Practice. He has served as Senior Editor of Journal of Process Control, Editor of Control Engineering Practice, Member of the Editorial Board for Journal of Chemometrics, and Associate Editor for several other journals. He has published over 400 international journal papers, book chapters, conference papers and presentations. His h-indices for Web of Science, SCOPUS, and Google Scholar are 66, 73, and 83, respectively. He received over 37,000 Google Scholar citations. Prof. Qin's research interests include data science and analytics, machine learning, process monitoring, model predictive control, system identification, smart manufacturing, smart cities, and predictive health maintenance.

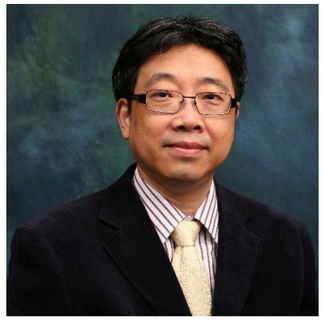
Keynote Speakers

Prof. Qiang Shen

Professor and Pro Vice-Chancellor of Aberystwyth University, United Kingdom

Qiang Shen received a PhD in Knowledge-Based Systems (1990) and a DSc in Computational Intelligence (2013). He holds the Established Chair of Computer Science and is Pro Vice-Chancellor: Faculty of Business and Physical Sciences at Aberystwyth University. He is a Fellow of the Royal Academy of Engineering and a Fellow and Council Member of the Learned Society of Wales (the national academy of Wales). The citation for his election to FREng stated that "Professor Shen is distinguished for world-leading and groundbreaking research and development of computational intelligence methodologies for data modelling and analysis, particularly for approximate knowledge-based critical intelligent decision support systems, with increased level of automation, efficiency and reliability. His pioneering work has led to a wide range of successful engineering applications, including for space exploration, counterterrorism, process monitoring, transportation management and consumer profiling. He is also a visionary academic leader, inspiring and nurturing future generations of computing engineers globally."

Prof. Shen had the honour of being a London 2012 Olympic Torch Relay torchbearer, selected to carry the Olympic torch as part of the centenary celebration of Alan Turing. Also, he has served as a panel member for the past two UK Research Excellence Framework (REF) exercises: 2014 and 2021, on Computer Science and Informatics. He has authored 2 research monographs and over 450 peer-reviewed papers. His publications include outstanding journal articles and best conference papers, which are directly related to the subject matter discussed in this presentation.



Prof. Jiannong Cao

Dean and Chair Professor of The Hong Kong Polytechnic University, Hong Kong SAR

Prof. Cao is the Otto Poon Charitable Foundation Professor in Data Science and the Chair Professor of Distributed and Mobile Computing in the Department of Computing at The Hong Kong Polytechnic University. He is the Dean of Graduate School, director of Research Institute for AIoT, director of Internet and Mobile Computing Lab and the associate director of University's Research Facility in Big Data Analytics. He served as the department head from 2011 to 2017.

Prof. Cao's research interests include parallel and distributed computing, wireless networking and mobile computing, big data and machine learning, and cloud and edge computing. He published 5 co-authored and 9 co-edited books, and over 500 papers in major international journals and conference proceedings. He also obtained 13 patents. Prof. Cao received many awards for his outstanding research achievements. He is a member of Academia Europaea, a fellow of Hong Kong Academy of Engineering Sciences, a fellow of IEEE, a fellow of CCF and a distinguished member of ACM. In 2017, he received the Overseas Outstanding Contribution Award from China Computer Federation.

Prof. Gwo-Jen Hwang

Chair Professor of NTU of Science and Technology, Taiwan

Prof. Gwo-Jen Hwang is currently a Chair Professor at the NTU of Science and Technology. He received his Ph.D. degree in Computer Science and Information Engineering from the NCTU in Taiwan in 1991. Dr Hwang serves as an editorial board member and a reviewer for more than 30 academic journals of educational technology and e-learning. He has also been the principal investigator of more than 100 research projects funded by Ministry of Science and Technology as well as Ministry of Education in Taiwan. His research interests include intelligence mobile and ubiquitous learning, flipped learning, digital game-based learning, and artificial in education. He is the scholar who defined the term "seamless flipped learning" as "mobile technology-enhanced flipped classroom with effective learning strategies."

Prof. Amir Hussain

Professor of Edinburgh Napier University, United Kingdom

Amir Hussain obtained his B.Eng (1st Class Honours with distinction) and Ph.D from the University of Strathclyde in Glasgow, UK, in 1992 and 1997 respectively. Following an UK EPSRC funded Postdoctoral Fellowship (1996-98) and Research Lectureship at the University of Dundee, UK (2018-20), he joined the University of Stirling, UK, in 2000 where he was appointed to a Personal Chair in Cognitive Computing in 2012. Since 2018, he has been Director of the Centre of AI and Robotics at Edinburgh Napier University, UK. His research and innovation interests are cross-disciplinary and industry-led, aimed at developing cognitive data science and responsible AI technologies to engineer the smart healthcare and industrial systems of tomorrow. He has co-authored around 600 papers including nearly 300 journal papers (h-index: 69, 22,000+ citations) and 20 Books, and supervised over 40 PhD students. He has led major national and international projects, including as Principal Investigator of the current multi-million pound COG-MHEAR programme (funded under the UK EPSRC Transformative Healthcare Technologies 2050 Call) that aims to develop truly personalised assistive hearing and communication technologies. He is founding Chief Editor of (Springer's) Cognitive Computation journal and Editorial Board member for (Elsevier's) Information Fusion and various IEEE Transactions. Amongst other distinguished roles, he is an executive committee member of the UK Computing Research Committee (the national expert panel of the IET and BCS for UK computing research). He served as General Chair of the 2020 IEEE WCCI (the world's largest IEEE technical event on computational intelligence, comprising the flagship IJCNN, IEEE CEC and FUZZ-IEEE) and the 2023 IEEE Smart World Congress (featuring six co-located IEEE Conferences).

Prof. Yanchun Zhang

Professor of Victoria University, Australia
& Guangzhou University, China

Yanchun Zhang is currently Professor at Guangzhou University, Chief Scientist at Pengcheng Lab, and Emeritus Professor at Victoria University. Dr Zhang obtained a PhD degree in Computer Science from The University of Queensland in 1991. His research interests include databases, data mining, web services and e-health, information/system security. He has published over 400 research papers in these areas, and supervised 40 PhDs and post doctors in completion. Dr. Zhang is a founding editor and editor-in-chief of World Wide Web Journal (Springer) and Health Information Science and Systems Journal (Springer). He speaks regularly at international conferences in the areas of data engineering / data science and health informatics. He has served as an expert panel member for various international funding agencies including Australian Research Council, the Royal Society of New Zealand's Marsden Fund, Medical Research Council of United Kingdom and NHMRC of Australia.

Prof. Guandong Xu

Professor of University of Technology Sydney, Australia

Prof. Guandong Xu is a Professor in the School of Computer Science and Advanced Analytics Institute at University of Technology Sydney. He received MSc and BSc degree in Computer Science and Engineering, and PhD in Computer Science. He has succeeded in three academic promotions from Lecturer to full Professor from 2012 to 2018. His research has received funding from Australian Research Council Discovery and Linkage Project. Cooperative Research Centre Program, government and industry, totaling over $5.5M in past years. He currently heads the Data Science and Machine Intelligence Research Lab, which consists of 15+ members of academics, research fellows and HDR students. From Nov 2019, he directs the newly established Smart Future Research Centre, which is an across-disciplines industry engagement and innovation platform for AI and Data Science Applications towards smart wealth and investment management, energy, food, water, living, and city.

Tutorial Speakers

Prof. Erik Cambria

Associate Professor at School of Computer Science and Engineering, Nanyang Technological University, Singapore

Erik Cambria is the Founder of SenticNet, a Singapore-based company offering B2B sentiment analysis services, and an Associate Professor at NTU, where he also holds the appointment of Provost Chair in Computer Science and Engineering. Prior to joining NTU, he worked at Microsoft Research Asia (Beijing) and HP Labs India (Bangalore) and earned his PhD through a joint programme between the University of Stirling and MIT Media Lab. His research focuses on neurosymbolic AI for explainable natural language processing in domains like sentiment analysis, dialogue systems, and financial forecasting. He is recipient of several awards, e.g., IEEE Outstanding Career Award, 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 many top-tier AI journals, such as Information Fusion and IEEE Transactions on Affective Computing, and is involved in various international conferences as program chair and SPC member.

Prof. Yi Cai

Professor and Dean of South China University of Technology, China

Prof. Yi Cai is the Professor and Dean in the School of Software Engineering, South China University of Technology (SCUT), China. He received his PhD from the Chinese University of Hong Kong. Before he joined SCUT, he was a post-doctor of City University of Hong Kong. He was a visiting scholar of KEG of Tsinghua University, City University of Hong Kong, Nanyang Technological University. He published more than 200 papers and 2 books. He reviewed papers from conferences and journals related to information retrieval, semantic web, recommender system, data mining and database, including TKDE, TOIT, WWWJ, JCST, CIKM and ER. He is a program committee member of conferences, including ICWE, WAIM, ICEBE and NDBC. He is the co-chair of Social Networking and Mining Track in EIDWT-2013.

Prof. Hui-Chun Chu

Distinguished Professor of Soochow University, Taiwan

Hui-Chun Chu is currently a Distinguished Professor at the Department of Computer Science and Information Management at Soochow University, where she also serves as the chairman. Prof. Chu serves as an editorial board member and a reviewer for more than 15 academic journals. Her research interests include mobile and ubiquitous learning, game-based learning, flipped learning, technology-assisted healthcare education, AI in medical diagnosis and education, and knowledge engineering in education. Prof. Chu has published more than 157 academic papers, including 68 academic journal papers, in which 44 papers are published in well-recognized SSCI and SCI journals. Owing to her distinguished academic performance and service in e-learning, she received the Annual Young Scholars Outstanding Researcher Award--Ta-You Wu Memorial Award from the Ministry of Science and Technology in 2014. In addition, she received the Outstanding ICT Elite Award in 2020 and the 2022 K. T. Li Women's Outstanding Research Award. She also served as the Associate Editor of IEEE Transactions on Learning Technologies (SSCI, Q1) since 2015, and the guest editor of Interactive Learning Environments (SSCI, Q1) in 2013 and 2016. Moreover, Prof. Chu received the reward of being “The top 50 Flipped Learning Leaders in higher education worldwide” in 2018.

Prof. Tianyong Hao

Professor of South Normal China University, China

Dr. Tianyong Hao is a full Professor at School of Artificial Intelligence, South China Normal University. He received his Ph.D. degree at City University of Hong Kong and studied at York University, Emory University , University of New South Wales, and Columbia University until 2014. Dr. Hao is in the list of National Young Foreign Talents, a committee member of ISO/TC37 and IEC, an associate secretary of SAC/TC52, vice directory of CIPS Health Informatic committee, directory of provincial center of Big Data Engineering & Technology, directory of a center of big data in a provincial research institute, the leader of provincial level research team on NLP for big data, etc. He is the lead guest editor of several SCI journals including JMIR Medical Informatics and international conferences such as AAAI, IJCAI, ACL, NCAA, etc. as PC member or co-chairs. He has published more than 180 SCI/EI indexed papers including IEEE TKDE, IEEE TEC, ACM TALIP, JBI, etc. He is the PI of 3 national grants and more than 20 other grants. He owns 8 best paper awards, 2 international standards and 6 national standards.

Mr. Spencer Fung

CEO and Founder of Optix Solutions Limited, Hong Kong SAR

Mr. Spencer Fung is the CEO and founder of Optix SolutionsLimited. With over 20 years of R&D, entrepreneurship, and business management experience, he is a pioneer in artificial intelligence (AI) development. He has a broad range of experience in developing applications with big data analytics, prediction analytics, natural language processing, optimization algorithms, and machine learning technologies to solve various complex problems for enterprises in different industries, including transport, logistics, manufacturing, and construction. His vision is to promote the use of advanced technology to enhance business operations. In 2015, he built an AI-based predictive maintenance and operations optimization system, which successfully transformed a traditional maintenance operation and was honored with numerous awards. He is also an active member of the community, serving as an EXCO member of the AI Specialist Group at the Hong Kong Computer Society (HKCS) since 2019.

Prof. Xuemiao Xu

Professor and Deputy Dean of South China University of Technology, China

Prof. Xu Xuemiao is currently a professor at the School of Computer Science and Engineering, Deputy Dean at Jun De College in South China University of Technology. She is recognized as a young outstanding talent in the Guangdong Provincial Special Support Program, as well as the Pearl River Talent Plan. Dr. Xu Xuemiao obtained her doctoral degree from The Chinese University of Hong Kong. Her research focuses on artificial intelligence visual technology, computer graphics and image processing, and their applications in areas such as intelligent transportation, smart living, and intelligent manufacturing. In recent years, she has published over 60 papers in the high-quality international journals and conferences, such as SIGGRAPH (SIGGRAPH Asia), CVPR, ICCV, IJCAI, AAAI, TIP, TNNLS, TOG, TMM, TCSVT. She has also been granted 15 invention patents. Prof. Xu has led a total of 15 projects, including national key projects, National Natural Science Foundation projects, and major projects in Guangdong Province and Guangzhou City. The commercial value of her research outputs has exceeded 900 million.

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