SIUSAI 2024

May 17-19,2024

Qingdao, China

2024 3rd International Symposium on Intelligent Unmanned Systems and Artificial Intelligence

www.siusai.org

Conference Venue

Venue: Qingdao University Fushan Campus

Introduction of Qingdao University:
Qingdao University, situated in the historical and cultural city of Qingdao, is imbued with a profound traditional culture and the spirit of the present. It nestles below Fushan Mountain and faces the Yellow Sea.

Qingdao University implements the strategy of "building up the university on the basis of talent cultivation, and invigorating it through learning and with talents", with the obligation to "impart profound academic knowledge and cultivate talents with great leaning to meet the needs of our nation". We advocate academic inclusion, learn from diverse cultures, inherit human civilizations, pursue the truth of humanity and nature, and shoulder the social responsibility to cultivate high-quality talents, who take the lead in social development and cultural advancement.

After years of construction, Qingdao University has evolved into a large-scale comprehensive university with multiple disciplines of natural science and humanistic and social science. It has won acclaim from the society for its high-quality education and high academic level. Now students, faculty and staff of Qingdao University are striding forward toward a brilliant future, with hopes and dreams, historical mission and social responsibilities.

You can reach Qingdao University Fushan Campus (located at 308 Ningxia Road) via several bus routes, including 321, 125, 316, 301, 11, 227, 623, 379, and 304. Please disembark at the Qingdao University Station. Alternatively, you can take Qingdao Metro Line 2 and exit at the Maidao Station.

May 17, Friday
09:00-18:00 Onsite Registration
16:00-18:00 Technical Test (for online participants)

May 18, Saturday
08:30-12:00 Keynote Session
14:00-18:00 Parallel Sessions

May 19, Sunday
Social Events (TBD)

May 18, 2024 **Time: 08:30-18:00 Venue: Qingdao University**	
08:30-09:00	Opening Ceremony
09:00-09:40	Keynote Speech I Prof. Jean-luc Dugelay, EURECOM; IEEE Fellow
09:40-10:20	Keynote Speaker II Prof. Yun Li, Shenzhen Institute for Advanced Study, University of Electronic Science and Technology of China, IEEE Fellow
10:20-10:40	Tea Break
10:40-11:20	Keynote Speech III (TBD)
11:20-12:00	Keynote Speech IV (TBD)
12:00-14:00	Lunch
14:00-16:00 Parallel Session	**Special Session I - Intelligent Control of Cyber-Physical Systems under Cyber Attacks** Session Chair: Associate Professor Ning Sheng, Qingdao University of Science and Technology
	Special Session II - Artificial Intelligence in Coastal and Ocean Engineering Session Chair: Professor Can Cui, Ocean University of China
	Special Session III - Applications of AI in Nonlinear System Control Session Chairs: Associate Professor Xiaomiao Li, Yanshan University Associate Professor Xianghua Wang, Beijing University of Posts and Telecommunications Session Co-Chair: Associate Professor Lei Guo, Beijing University of Posts and Telecommunications
	Special Session IV - Intelligent Detection and Monitoring: Technologies and Applications Session Chair: Associate Professor Zhengfang Wang, Shandong University

	Special Session V - Artificial Intelligence in Healthcare and Rehabilitation Session Chairs: Associate Professor Huanghe Zhang, Shandong University Professor Chuanyan Wu, Shandong Management University Associate Professor Qingfeng Yin, The Second Hospital of Shandong University
	Special Session VI - Pattern Recognition and Intelligent Transportation Systems Session Chairs: Professor Faliang Chang, Shandong University Associate Professor Chunsheng Liu, Shandong University Associate Professor Hailong Zhang, North University of China
	Special Session VII - Intelligent Control and Coordination of Unmanned System Session Chair: Professor Xingling Shao, North University of China
	Special Session VIII - Intelligent Optical Engineering Technology in Unmanned System Session Chair: Professor Haoting Liu, University of Science and Technology Beijing
	Special Session IX - Complex Network Session Chair: Professor Zhen Zhang, Zhengzhou University
	Special Session X - Autonomous Control of Unmanned Systems Session Chair: Professor Dan Liu, North University of China
16:00-16:30	Tea Break + Poster Display
16:30-17:30	Late Registration Presentation
17:30-18:00	Award Ceremony
18:00-20:00	Dinner

Keynote Speaker I

May 18, Saturday 09:00-09:40

Prof. Jean-luc Dugelay
EURECOM, IEEE Fellow

Biography: Jean-Luc DUGELAY obtained his PhD in Information Technology from the University of Rennes in 1992. His thesis work was undertaken at CCETT (France Télécom Research) at Rennes between 1989 and 1992. He then joined EURECOM in Sophia Antipolis where he is now a Professor in the Department of Digital Security. His current work focuses in the domain of multimedia image processing, in particular activities in security (image forensics, biometrics and video surveillance, mini drones), and facial image processing. He has authored or co-authored over 285 publications in journals and conference proceedings, 1 book on 3D object processing published by Wiley, 5 book chapters and 3 international patents. His research group is involved in several national projects and European projects. He has delivered several tutorials on digital watermarking, biometrics and compression at major international conferences such as ACM Multimedia and IEEE ICASSP. He participated in numerous scientific events as member of scientific technical committees, invited speakers or session chair. He is a fellow member of IEEE, IAPR, and AAIA; and an elected member of the EURASIP BoG. Jean-Luc Dugelay is (or was) associate editor of several international journals (IEEE Trans. on IP, IEEE Trans. on MM) and is the founding Editor-in-Chief of the EURASIP journal on Image and Video Processing (SpringerOpen). Jean-Luc DUGELAY is co-author of several conference articles that received an IEEE award in 2011, 2012, 2013 and 2016. He co-organized the 4th IEEE International Conference on Multimedia Signal Processing held in Cannes, 2001 and the Multimodal User Authentication held in Santa Barbara, 2003. In 2015, he served as general co-chair of IEEE ICIP (Québec City) and EURASIP EUSIPCO (Nice).

Keynote Speaker II

May 18, Saturday 09:40-10:20

Prof. Yun Li
Shenzhen Institute for Advanced Study, University of Electronic Science and Technology of China, IEEE Fellow

Speech Title: Knowledge and Data Dual-Driven Artificial Intelligence and Its Application to Enable Computer-Automated Design

Biography: Professor Yun Li FIEEE obtained his PhD from University of Strathclyde, Glasgow, UK, and has researched into intelligent systems and "AI for Engineering" for over 30 years. He taught at University of Glasgow for 28 years, where he was recognized as the second Top Author and served as the founding Director of University of Glasgow Singapore. Since 2021, he has been Director of Industrial Artificial Intelligence Centre at Shenzhen Institute for Advanced Study, University of Electronic Science and Technology of China.

Inspired by AI, his early work resolved issues in PID control that had been puzzling practicing engineers for over 50 years. He has led or co-led over 30 research projects in the UK, EU, Singapore, and China, equivalent to over 20 million pounds in funding. Currently, Currently, his research focuses on explainable artificial intelligence (XAI) and Computer-Automated Design (CAutoD, EDA), leading 2 major research projects funded by the National Natural Science Foundation of China for the next-generation AI models with grey-box XAI technology and by the National Key R&D Program of the Ministry of Science and Technology of China for the next-generation AI chips with compute-in-memory technology. He has published over 300 papers and books, and holds 20 patents in China, Europe, United States and Japan.

Abstract: The explosive growth in data volume and computational power has enabled the successful application of computational artificial intelligence (AI) in engineering science ("AI for Engineering"), greatly enhancing industrial innovation in terms of exploration, imagination, and creativity. This lecture introduces, in conjunction with general large language models (LLM), the next generation of artificial intelligence that is explainable (XAI), driven by both data and knowledge. It illustrates the elevation of "Computer-Aided Design" (CAD) in the third paradigm of science to "Computer-Automated Design" (CAutoD) in the fourth paradigm. Similar to how AlphaGo Zero, which was not based on human intelligence, surpassed AlphaGo, which was based on Go experts, this approach aims to break through the mental limits of design engineers, enhance the performance of high-end products and services, shorten development time, and increase industrial competitiveness and originality. In addition to engineering design and electronic design automation (EDA), the talk will also cover applications of XAI in dynamic system modelling, control signal generation, and track-before-detection filtering for unmanned systems.

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