

Special Session 4: Intelligent Software Engineering

Chairs: Rubing Huang, Macau University of Science and Technology, China

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Brief Description of the Session

With the rapid development of Artificial Intelligence (AI), for one thing, many AI techniques have been proposed, which can be used to address the problems from Software Engineering (SE); for another thing, many AI applications have been emerged such as machine translation and automatus driving, and their quality becomes significant. The Intelligent Software Engineering (ISE) aims to investigate the following two aspects: AI for SE (AI4SE) and SE for AI (SE4AI). The AI4SE is to discuss new ideas and theories to explore, evaluate, and solve SE problems with intelligent approaches, while the SE4AI is to discuss the SE techniques for improving the productivity of developing more reliable and dependable AI software. This session attempts to bring together international researchers and practitioners in the field of ISE to present and discuss applications, experiences and emerging advanced techniques.

Topics

- Intelligent software testing
- Trustworthy AI
- Mining large-scale software repositories
- Testing and evaluation of intelligent systems
- AI assisted code generation
- Mining software specifications
- Program comprehension using AI
- Intelligent software traceability
- AI based software quality evaluation
- Intelligent software summarization
- Intelligent software maintenance
- Software optimization using AI

Brief Introduction of Chair and Co-chairs with Photo



Rubing Huang received his Ph.D. degree in computer science and technology from the Huazhong University of Science and Technology, Wuhan, China, in 2013. He is an associate professor at the School of Computer Science and Engineering, Macau University of Science and Technology (M.U.S.T.). His current research interests include AI for software engineering, software engineering for AI, software testing, debugging, and maintenance.

He is a senior member of IEEE and CCF. More information about him and his work is available online at <https://huangrubing.github.io>. Ning Deng, College of Biomedical Engineering and Instrument Science, Zhejiang University, Hangzhou, China.



Jinyu Tian received his Ph.D. degree from the Faculty of Science and Technology, University of Macau, Taipa, China. He is currently an Assistant Professor at the Faculty of Innovation Engineering, at Macau University of Science and Technology. Before this, he received B.S. and M.S. degrees in mathematics from Chongqing University, Chongqing, China, in 2014 and 2017, respectively. His current research interests include adversarial machine learning, security of deep learning, and subspace learning. He has

authored/co-authored over 40 scientific papers in international journals and conferences, such as TIP, TSC, AAAI, CVPR, etc. He is a regular reviewer of extensive journals and conferences, such as TIP, TMM, TIFS, NeurIPS, ICML, and CVPR. He is the Principal Investigator (PI) of four fundings, including National Natural Science Foundation of China, Macau Science and Technology Development Fund, and Guangdong Provincial Natural Science Foundation General Project.