

**Program**



**10th International Conference on  
Computational Science/Intelligence &  
Applied Informatics (CSII 2023)**

**The 3rd ACIS International Conference of  
Artificial Intelligence (IAI-2023)**



**July 14, 2023**

**London, UK**

**[Zoom Meeting ID: 883 4741 7446, Passcode: 393163](#)**

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# Program at a Glance

Friday, July 14, 2023

Zoom Meeting ID: 883 4741 7446, Passcode: 393163

Time (GMT)	Session
09:00 - 09:10	Opening Ceremony
09:10 – 10:00	Keynote Prof Simon Xu
10:00 – 10:30	Non-aligned RGBT Tracking via Joint Temporal-iterated Homography Estimation and Multimodal Transformer Fusion <u>Lei Liu</u> , Chenglong Li, Zhaoxiang Zhang, Aihua Zheng and Jin Tang Anhui University
10:30 – 11:00	Deep Learning Model for Railroad Structural Health Monitoring via Distributed Acoustic Sensing <u>Md Arifur Rahman</u> , Hossein Taheri and <u>Jongyeop Kim</u> Georgia Southern University
11:00 – 11:30	Robust Zero-watermarking Algorithm for Medical Images Based on ORB and DCT <u>Yanyi Li</u> , Jingbing Li, Uzair Aslam Bhatti, Jixin Ma, Dekai Li and Fangchun Dong Hainan University
11:30 – 12:00	Accelerating Tsunami computation on a GPU using OpenMP offloading <u>Ezhilmathi Krishnasamy</u> , Sven Harig and Pascal Bouvry University of Luxembourg
12:00 – 12:30	Multi-Request Data Cache Optimization Strategy in Edge Computing <u>Futian Wang</u> , <u>Zhimin Wu</u> , Jin Tang, Chenglong Li and Cheng Zhang School of Computer Science and Technology, Anhui University
12:30 – 13:00	Robust Zero-watermarking Algorithm for Medical Images Based on GFTT-KAZE and DCT <u>Shilong Dong</u> , Jingbing Li, Aslam Bhatti Uzair, Jixin Ma, Fangchun Dong and Yanyi Li Hainan University
13:00 – 13:30	Study on Locality, Fairness, and Optimal Resource Allocation in Cluster Scheduling <u>Cherindranath Reddy</u> Computer Science Engineering, Bangalore Institute of Technology, Visvesvaraya Technological University, India
13:30 – 14:00	Fetal Brain MRI Segmentation via Boundary-Aware Voxel-Level Contrastive Learning <u>Wenying Lu</u> , Xin Zhang and Qin Xu AnHui University & AHU-IAI AI Joint Laboratory, Anhui University & Institute of Artificial Intelligence, Hefei Comprehensive National Science Center
14:00 – 14:30	Robust Zero-watermarking Algorithm for Medical Images Based on AGAST-LATCH and DCT <u>Guoshun Sun</u> , Jingbing Li, Uzair Aslam Bhatti, Jixin Ma, Fangchun Dong and Yanyi Li Hainan University

# Keynote

## Dialog-Based Protocol: An Empirical Research Method For Cognitive Activity during Software Engineering

**Simon Xu, Ph.D.**  
**Professor and Director,**  
**School of Computer Science and Technology**  
**Algoma University, Canada**  
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Empirical Software engineering employs research methods grounded in empirical analysis to investigate and assess various aspects of software engineering including tools, technologies, processes, policies, or other human and organizational factors including cognitive activities of programmers. In order to study the cognitive activities, an empirical method is needed to document and analyze the process completely and precisely.

In this talk, Dr. Xu will first provide an overview of empirical research methods in software engineering. Subsequently, the dialog-based protocol, including the approach to conduct the experiment, the recording method and the coding schema for protocol analysis, is explained. The dialog-based protocol is based on the analysis of the dialog that occurs between programmers. The self-directed learning theory, which is used to conduct protocol analysis, draws upon the constructivist learning theory and the Bloom taxonomy. Lastly, a case study using the dialog-base protocol will be present, and the limitations of this novel protocol will be discussed.

### Biography

Dr. Simon Xu is a Full Professor in the School of Computer Science and Technology at Algoma University where he has been a faculty member since 2002. He has held the positions of School Director/Department Chair since 2009. Prior to his tenure at Algoma University, he was working in the School of Computer Science of University of Windsor, Canada. Additionally, he serves as a guest professor at Wuhan University and the adjunct professor at China University of Mining and Technology, China. Dr. Xu earned his Ph.D. degrees from Wayne State University, in the United States, and the University of Liege in Belgium. His research focuses on software evolution, program comprehension, big data, and cognitive process during software development. Dr. Xu has published more than 90 articles in referred journals and conference proceedings and a few authored/co-authored books. He has chaired seven IEEE international conferences and has been invited to deliver keynotes at various IEEE conferences. He is a senior member of IEEE and a member of ACM.