

**Title:**

Service-oriented Internet of Things: Data Analytics, Protocols and Applications.

Abstract:

Nowadays, the proliferation of Cloud computing, Fog computing, IoT and data mining technologies enables both small-scale and large-scale intelligent environments and systems for various domains, such as intelligent healthcare, intelligent cities, intelligent energy grids, or intelligent factories. Service-oriented architecture (SOA) provides an architectural approach that enables the deployment and management of “real-world” services and applications through innovative service-oriented techniques. The way of building new IoT services and applications is changing. We indeed need creative thinking, long-term visions, and innovative methodologies to respond to such a change.

Scope and Topics:

The goal of this workshop at ICAIS2022 is to provide a forum to discuss important research questions and practical challenges in Service-oriented IoT and related areas. Novel ideas, controversial issues, open problems and comparisons of competing approaches are strongly encouraged. Representation of alternative viewpoints and discussions are also strongly encouraged. We invite submission of papers describing innovative research on all aspects of Service-oriented IoT. Work-in-progress papers, demos, and visionary papers are also welcome. Papers emphasizing theoretical foundations, algorithms, systems, applications, language issues, data analytic, architecture, and protocols are particularly encouraged.

- ✧Advanced Machine Learning and Artificial Intelligence for IoT Services
- ✧Data Mining Framework and Algorithms for IoT Services
- ✧Protocols, Standards and Languages for IoT Services
- ✧Renewable Energy and Energy Saving for IoT
- ✧Cloud, Fog and Mobile Edge Computing Services for IoT
- ✧Quality of Services (QoS) and Cost of Services (CoS) for IoT
- ✧Data and Information Integration & Modelling for IoT
- ✧Security, Privacy and Trust for IoT Services
- ✧Blockchain for IoT Services
- ✧Service Discovery, Composition, Selection and Recommendation for IoT
- ✧Service Delivery, Deployment and Maintenance for IoT
- ✧Service Level Agreements Negotiation, Automation and Orchestration for IoT
- ✧Ontology and Semantic Web for IoT
- ✧IoT Service Repository and Registry
- ✧IoT Workflows
- ✧IoT Business Processes
- ✧IoT Micro-services
- ✧Social Networking Services for IoT
- ✧Cultural, Language, Social and Legal Obstacles for Service-oriented IoT
- ✧IoT Services in E-health
- ✧IoT Services in Smart Home and Smart City



- ✧IoT Services in Industry
- ✧IoT Services of Vehicles
- ✧IoT Services in Smart Education Systems
- ✧Other Service-oriented IoT Applications

Program Committee Chairs:

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Dr. Yanchun Zhang is a full Professor and Director of the Centre for Applied Informatics at Victoria University. He received the National thousand Talent Program Award from China in 2010. He obtained a PhD degree in Computer Science from The University of Queensland in 1991. He was a research fellow at UQ and CRC Distributed Distributed Systems Technology from 1991 to 1993, and an academic member in the Department of Mathematics and Computing at University of Southern Queensland from 1994 to June 2003. He has been active in areas of data mining, E-health, database and information systems, Web and Internet technologies, Web services, and e-Research. He has published over 400 research papers in international journals and conference proceedings, and authored/edited over 10 books. He was the winner of 2005 Victoria University Vice-Chancellor's Medal for Excellence in Research, and 2011 Victoria University Vice-Chancellor's Peak Award for Research and Research Training in Research Supervision, respectively. He is the Editor-In-Chief of World Wide Web journal (Springer) and Health Information Science and Systems journal (BioMed Central), and the Editor of Web Information Systems Engineering and Internet Technologies Book Series from Springer. He is Chairman of Web Information Systems Engineering (WISE) Society. He is Australian representative of International Federation of Information Processing (IFIP) 's Working Group WG6.4 on Internet Applications Engineering.

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Dr. Michael Sheng is a full Professor and Head of Department of Computing at Macquarie University. Before moving to Macquarie, Michael spent 10 years at School of Computer Science, the University of Adelaide (UoA). Michael holds a PhD degree in computer science from the University of New South Wales (UNSW) and did his post-doc as a research scientist at CSIRO ICT Centre. From 1999 to 2001, Sheng also worked at UNSW as a visiting research fellow. Prior to that, he spent 6 years as a senior software engineer in industries. Prof. Sheng has more than 350 publications as edited books and proceedings, refereed book chapters, and refereed technical papers in journals and conferences including ACM Computing Surveys, ACM TOIT, ACM TOMM, ACM TKDD, VLDB Journal, Computer (Oxford), IEEE TPDS, TKDE, DAPD, IEEE TSC, WWWJ, IEEE Computer, IEEE Internet Computing, Communications of the ACM, VLDB, ICDE, ICDM, CIKM, EDBT, WWW, ICSE, ICSOC, ICWS, and CAiSE. Dr. Michael Sheng is the recipient of the ARC Future Fellowship (2014), Chris Wallace Award for Outstanding Research Contribution (2012), and Microsoft Research Fellowship (2003).

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Dr. Yanping Xiang is a full Professor of Computer Science at UESTC. Yanping Xiang received her B.S. and M.S. degrees from Shanghai Jiao Tong University, Shanghai, China, in 1993, and 1996 respectively; and Ph.D. degree from National University of Singapore in 2003. In 2008, Dr. Xiang joined the School of Computer Science, UESTC. Now she is a Professor at the Collaborative Autonomic Computing (CAC) laboratory at UESTC. Before joining UESTC, she was a Research Fellow of the Industrial and System Engineering Department of National University of Singapore. Her current research interests include cloud computing, decision making, reliability, and autonomic computing. She has published over 50 papers .

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Dr. Hai Dong is a Lecturer at School of Science in RMIT University, Australia. He is the coordinator of Sensors, Clouds, and Services Laboratory (SCSLab), the coordinator of Smart Sensing and Services Group, and the leader of Trust Management Stream in Cyberspace and Security Group. Prior to this position, he served as a Vice-Chancellor's Research Fellow in RMIT University and a Curtin Research Fellow in Curtin University of Technology, Australia. He received a PhD from Curtin University of Technology and a Bachelor's degree from Northeastern University. He published a monograph and over 80 research publications in international journals and conferences, including CACM, CCPE, Computing, FGCS, JCSS, JNCA, KBS, TIE, TII, TSC, WWWJ, FUZZ-IEEE, ICONIP, ICSOC, ICWS, WISE, etc. He received the Best Research Paper Award in ICSOC 2016. He obtained the competitive research funding with a total value of more than \$1 million AUD. He served as an organizing committee chair or PC member for over 50 international conferences, including ICSOC, ICWS, MobiQuitous, WISE, etc. He was invited as a reviewer for over 40 international journals, such as CSUR, TFS, TIE, TII, TKDE, TOIT, TSC, etc. His primary research interests include: Services Computing, Artificial Intelligence, Data Analytics, Cybersecurity, Cloud Computing, Internet of Things, etc. He is a member of the ACM and the IEEE.

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