



Talk Information

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Title of the talk: Real-time Internet of Things: Architecture, Algorithms and Applications

Abstract of the talk:

The Internet of Things (IoT) is an emerging revolution, which targets anytime connectivity for anything to create smart environments in which there is fast-paced interaction between systems (networked sensors, heterogeneous devices, actuators, robots) and between such systems and people. To further enable real-time services in IoT, a new multi-tier computing paradigm is recently introduced and explored in both academic and industrial fields. Its basic concept is to construct local computing nodes (aka edge/fog nodes), which moves computation, control, networking, storage and security functionalities from traditional remote cloud right to a place closer to the end-users in order to optimally support time-critical applications. Meanwhile, it also empowers a new set of industrial applications, such as networked robotics and cloud-fog automation, to achieve real-time operations. In this talk, a complete overview and recent developments of real-time IoT will be presented with its applications in smart manufacturing, smart transport and smart cities.

Biography of the speaker:

Jiong Jin is currently an Associate Professor and Academic Director (Research Training) in the School of Science, Computing and Engineering Technologies, Swinburne University of Technology. He received the B.E. degree with First Class Honours in Computer Engineering from Nanyang Technological University, Singapore, in 2006, and the Ph.D. degree in Electrical and Electronic Engineering from the University of Melbourne, Australia, in 2011. His research interests include network design and optimization, edge computing and networking, robotics and automation, and cyber-physical systems and Internet of Things as well as their applications in smart manufacturing, smart transportation and smart cities. He is recognized as an Honourable Mention in the AI 2000 Most Influential Scholars List in IoT (2021 and 2022) and included in Stanford University's list of the world Top 2% scientists for citation impact since 2019. He is currently an Associate Editor of IEEE Transactions on Industrial Informatics.