

Frontier Institute of Information Science seminar
Takayuki Ito's research group seminar

Urban Sensing: Making Smart Cities Friendly and Safe for Pedestrians

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Most of the world's population now live in big cities. As cities grow bigger, there are bound to be dark corners. Local people who are familiar with an area would avoid using certain side streets unless they have no other choice. However, for tourists from out of town and those who must work in the area, a smart pedestrian GPS with "urban sensors" would be very useful to guide people move around in the area. We study urban sensors that can identify specific types of people, events, and situations on city streets to build real-time pedestrian guiding systems. For example, homeless and drunk people may be detected and traced by street cameras that are now ubiquitous in all cities. Occasional unrest, fire or natural disasters may also be detected by urban sensors built from social or crowd sensing to mark certain areas too dangerous to use. Algorithms and techniques can be integrated for real time detection of urban events and situations. Combined with historical data analytics, urban sensing can make predictions on the perimeter of areas for people to avoid. In this talk, the issues, techniques and challenges for urban sensing are presented.

About the Speaker

Kwei-Jay Lin is a Professor at the University of California, Irvine. He is an Adjunct Professor at the National Taiwan University and National Tsinghua University, Taiwan; Zhejiang University, China; Nagoya Institute of Technology, Japan. He is a Chief Scientist at the NTU IoX Research Center at the National Taiwan University, Taipei. He was a Visiting Research Fellow at the Academia Sinica, Taiwan in Spring 2016.



Prof. Lin is an IEEE Fellow, and Editor-In-Chief of the Springer Journal on Service-Oriented Computing and Applications (SOCA). He was the Co-Chair of the IEEE Technical Committee on Business Informatics and Systems (TCBIS) until 2012. He has served on many international conferences, recently as conference co-chairs of IEEE SOCA 2016. His research interest includes service-oriented systems, IoT systems, middleware, real-time computing, and distributed computing.