

P2MNET 2016 Keynote

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Big Sensed Data in the Internet of Things

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Abstract

The Internet of Things (IoT) is opening new horizons in systems intelligence, where physical objects (embedded with sensory, identification and networking capabilities) can interact with other objects through the global infrastructure of wireless/wired Internet. These systems can be monitored and controlled by filtering and processing collected data. Such intelligent design will naturally result in efficient and cost effective systems. Several architectures are being built to implement IoT from two different perspectives. The rise of ad hoc sensors, and new manifestations of sensing systems within the Internet of Things resulted in a tide of sensed data that is potentially drowning our communication resources. In this talk I overview the evolution of sensing systems as they contributed to Big Data, and outline the rising challenges in both communicating and understanding this data. I argue that a solution lies not in sensing systems alone, but in the expedited funneling and processing of data as we attempt to prune the unnecessary, and make sense of the valuable. The quest for energy efficiency that dominated Sensor Networks for so long is now matched with a more pressing demand for ubiquity and real-time latency.

About the Speaker

Hossam Hassanein is a leading authority in the areas of broadband, wireless and mobile networks architecture, protocols, control and performance evaluation. His record spans more than 500 publications in journals, conferences and book chapters, in addition to numerous keynotes and plenary talks in flagship venues. Dr. Hassanein has received several recognitions and best papers awards at top international conferences. He is also the founder and director of the Telecommunications Research Lab (TRL) at Queen's University School of Computing, with extensive international academic and industrial collaborations. He is a senior member of the IEEE, and is a former chair of the IEEE Communication Society Technical Committee on Ad hoc and Sensor Networks (TC AHSN). Dr. Hassanein is an IEEE Communications Society Distinguished Speaker (Distinguished Lecturer 2008-2010).