Keynote Speaker

Pervasive Sensing and Healthcare Applications

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Abstract

In this talk, we talk the state of the art of pervasive sensing technology and its applications, including understanding nursing processes in hospitals, and helping households to recognize daily activities related to energy consumption. Recent deployment of light-weight sensors equipped with wireless networking or embedded in smart phones made it possible to recognize and understand the activities and contexts of the users. If we can compile them in an understandable manner to the users, we can expect various applications such as in healthcare and energy management domains.

In this new horizon of technology, we introduce the state of the art of the research, including utilization and improvement of machine learning methods, such as being robust for labels with uncertain segments, or utilizing periodical information for daily activities. Moreover, we also introduce the activity of collecting and providing a large-scale dataset for activity recognition, such as a mobile accelerator open dataset with about 35,000 activity data from more than 200 subjects, nurses' sensor data combined with 100 patients' sensor data and medical records, and 34 households' light sensor data set for 4 months combined with smart meter data.