



Topic: Indoor Group Activity Recognition with Highly Synchronized Microphone Arrays

Goal: This project aims at detecting and analyzing cooperative human activities and relationships within a group of people under indoor environment. For accurate in-door localization and activity recognition, highly synchronized microphone arrays will be used.

Workflow:

Month 1: get familiar with microphone array platform and corresponding record program
Month 2: develop robust in-door localization algorithms
Month 3: develop activity recognition algorithms
Month 4: ethics control, data recording and labeling
Month 5: data evaluation and high-level context analyze
Month 6: documentation, paper and thesis writing

Advantages:

- 1) You'll have an easy start: the work will be based on the advanced hardware platform which is available only in the Wearable Computing Lab (microphone array platform specially designed for pervasive application scenario with the highest channel number, ns level synchronization and high precision)
- 2) possibility of writing a paper based on the thesis

Requirements:

- . Experience in or lectures on Data Mining (better including deep-learning)
- . Good programming skills with Matlab or Python or C++(Qt)
- . Experience in or lectures on acoustic data processing or voice recognition
- . Good written and oral English