

# SenseApp 2006

## Keynote Address

### **The BehaviorScope Project: Experiences from the Design, Implementation and Deployment of a Camera Sensor Network**

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In the past few years, sensor networks have demonstrated a great success. The benefits to scientific research are already beginning show in habitat monitoring, structural health monitoring, industrial applications, and tactical environments. The application of wireless sensor network technologies to everyday life situations, however, still remains highly unexplored. This is mainly because the requirements for sensor networks in everyday life situations are quite different from their counterparts in habitat monitoring and military applications. Instead of focusing on the collection of raw sensor data to be analyzed by domain experts, sensor networks in everyday life situations are required to understand the behaviors of people in physical space and react to provide services to them. Furthermore, they are expected to do so with low latencies and without invading the privacy of their users.

This talk will present our experiences from a new breed of sensor networks that specializes in the bottom-up classification of complex behaviors using an underlying camera sensor network that operates on symbolic information. First, I will outline a new set of challenges for sensor networks in everyday environments. After that I will describe the key components of the BehaviorScope architecture and report on our experiences and lessons learned from the design, implementation and deployment of an instance of the BehaviorScope in an assisted living application.