

UW CENTER FOR PATTERN ANALYSIS AND MACHINE INTELLIGENCE

GRADUATE SEMINAR SERIES

HASM: A Hybrid Architecture for Sensor Management in a Distributed Surveillance Context

Speaker: Allaa Hilal

Date: September 28, 2011

Time: 4 pm - 5 pm

Place: E5 (5128) Refreshments will be served

Abstract :

Recent world events have amplified the need for safety and security against nature and man-made threats. Accordingly, the need for complex security paradigm has stimulated interest in smart pervasive surveillance networks. Such networks require intelligent management systems to control the large number of sensor nodes and the large amount of data. Sensor Management Frameworks (SMF) aim to coordinate the use of sensing resources in a manner that improves the process of system control and situation awareness. This presentation introduces a scalable and flexible organizational architecture that is applicable in a variety of applications with a focus on pervasive surveillance. The proposed Hybrid Architecture for Sensor Management (HASM) mixes the advantages of the holonic, and federated paradigms. Experimental results illustrate the performance of HASM over varying number of threats, background targets, and network sizes. The results show that the proposed paradigm is highly scalable and flexible compared to the centralized one.

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