

## **VideoWeb: Design of a Wireless Camera Network for Real-time Monitoring of Activities**

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*Abstract*—Sensor networks have been a very active area of research in recent years. However, most of the sensors used in the development of these networks have been local and nonimaging sensors such as acoustics, seismic, vibration, temperature, humidity, etc. The development of emerging video sensor networks poses its own set of unique challenges, including high bandwidth and low latency requirements for real-time processing and control. This talk will present a systematic approach for the design, implementation, and evaluation of a large-scale, software reconfigurable, wireless camera network, suitable for a variety of practical real-time applications. We take into consideration issues related to the hardware, software, control, architecture, network connectivity, performance evaluation, and data processing strategies for the network. We perform multi-objective optimization on settings such as video resolution and compression quality to provide insight into the performance trade-offs when configuring such a network.

Interests: All aspects of distributed video sensor networks.

Related Publications:

- Y. Li and B. Bhanu, "Utility-based dynamic camera assignment and hand-off in a video network," Second ACM/IEEE International Conference on Distributed Smart Cameras, pp. 1-9, Stanford, CA, Sept. 7-11, 2008.
- X. Zou, B. Bhanu, B. Song and A. Roy Chowdhury, "Determining Topology and Identifying Anomalous Patterns in a Distributed Camera Network", International Conference on Image Processing, 2007.
- X. Zou and B. Bhanu, "Anomalous activity classification in the distributed camera network," International Conference on Image Processing, San Diego, CA, Oct. 12-15, 2008.