

Making surveillance cameras more efficient

March 5 2012, By Sean Nealon

A University of California, Riverside professor has recently co-authored a book about his surveillance camera research that has applications in everything from homeland security, environmental monitoring and home monitoring.

Amit K. Roy-Chowdhury, an associate professor in the Bourns College of Engineering, and Bi Song, one of Roy-Chowdhury's former graduate students, wrote "[Camera Networks: The Acquisition and Analysis of Videos over Wide Areas](#)." It was published by Morgan & Claypool Publishers.

It is believed to be the first book on the topic of [camera](#) networks, an upcoming and increasingly important research area that builds on many concepts in image processing, systems theory, computer science, mathematics and statistics, Roy-Chowdhury said.

The book addresses issues such as constraints imposed by these different applications; visual challenges, such as tracking and recognition, illumination and clutter; positioning cameras; and processing and scene analysis algorithms.

Currently, it is common for a security person to monitor 30 screens in search of suspicious activity. Roy-Chowdhury's research aims to make that person's job easier by making the cameras smarter.

He is working to essentially train the cameras to recognize suspicious things. Once a suspicious object is identified, the security person will be

cued to the cameras that focus on that object.

In addition, the cameras will be optimized so that object, say a person with a gun, can be tracked as they move. Also, the camera could be designed so it could zoom in on that person's face so facial recognition software could be used to determine identity.

“The prevailing feeling is that the more cameras you have the more secure you are,” Roy-Chowdhury said. “That’s wrong. The real issue is how the feeds from those cameras are being monitored.”

Provided by University of California, Riverside

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