

Biometric Consortium 2005 Conference



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Topic: Video Tracking with Biometric ID for Robust Access Control

Abstract:

This presentation introduces a novel approach to secure area control by combining video surveillance with access control information from a biometric (such as face recognition, iris scan, fingerprint or hand geometry) or a card based access control system. Access Control systems use a wide spectrum of identification methods from tokens, smart cards to most sophisticated biometrics, to provide only authorized personnel with access to secured areas. However, the system does have a major point of failure - the user. Despite the efforts of manufacturers to create additional capabilities and technology to address the shortcomings of the user, the problem of unauthorized access still persists. Depending on the level of security, the realization of risks associated with such a breach can vary from inconvenience to significant security issues.

The proposed system detects and tracks people outside the secure area using state-of-the-art video object tracking, recognizes the "access event" from the video and tracks the people, with their unique ID's, to detect suspicious events, such as the person who gained access moves away from the door, or another person approaches to the door at the same time.

Biography:

Dr. Guler is currently the manager for Advanced Video Solutions department in Northrop Grumman Information Technology, TASC Inc. developing computer vision, and machine learning technology solutions applied to automated motion imagery content exploitation and understanding. In this capacity Dr. Guler manages several image and advanced technology projects from ranging from video tracking and event understanding R&D to integration of biometrics and other identification technologies into video understanding, and installation and deployment of these systems. Dr Guler is the inventor and lead architect of the AlertVideo™ intelligent video surveillance technology. She has taken the knowledge and insights gained from these efforts to transition these technologies into operational products and systems such as the AlertVideo™ SmartDoor™.

Dr. Guler received a Ph.D. degree in Electrical and Computer Engineering from the University of Massachusetts in 1996. She has professional memberships, several publications on image and video processing and pending patents on the AlertVideo™ technology. She received the Northrop Grumman Information Technology Best Technical Paper Award for 2001 and 2004 for her publications. Ms. Guler is an area editor for Springer-Verlag Machine Vision Applications journal and member of a member of the Institute of Electrical and Electronics Engineers.