Conference: «On Privacy-Protecting and Self-Organizing Cameras»

Data: martes, 21 abril, 2015 -12:00 -
13:30

Lugar: Assembly Hall

Poñente(s): Bernhard Rinner (Institute of Networked and Embedded Systems - Alpen-Adria-Universität Klagenfurt,
Austria)

Idioma: Inglés

Streaming: Non

We are surrounded by millions of cameras in our everyday life, and many of these networked cameras capture and analyze sensitive personal data. There do exist a few, partial approaches towards security and privacy protection in camera networks, but systematically establishing a secure and privacy-preserving camera network is still an open research question. Smart cameras may overcome these limitations; they perform substantial image processing onboard delivering only features of the observed scene and collaborate to solve some problems of centralized or single-camera systems.

In this talk I will introduce smart cameras and give an overview of key security topics for smart camera networks. In the first part, I will focus on the development of embedded trustworthy smart camera platforms that exploit hardware-based cryptographic functions to provide security guarantees for streamed videos and data. These security-enabled camera platforms perform "cartooning" onboard which protects the identities of the captures persons but still allows behavior recognition. In the second part, I will demonstrate how a network of smart cameras is self-organized by learning effective control strategies at each camera node.

Bio

Bernhard Rinner is professor at the Alpen-Adria-Universität Klagenfurt, Austria where he is heading the Pervasive Computing group. He is deputy head of the Institute of Networked and Embedded Systems and served as vice dean of the Faculty of Technical Sciences from 2008-2011. Before joining Klagenfurt he was with Graz University of Technology and held research positions at the Department of Computer Sciences at the University of Texas at Austin in 1995 and 1998/99. His current research interests include embedded computing, embedded video and computer vision, sensor networks and pervasive computing. Bernhard Rinner has been co-founder and general chair of the ACM/IEEE International Conference on Distributed Smart Cameras and has served as chief editor of a special issue on this topic in The Proceedings of the IEEE. Currently, he is Associate Editor for Ad Hoc Networks Journal and EURASIP Journal on Embedded Systems. Together with partners from four European universities, he has jointly initiated the Erasmus Mundus Joint Doctorate Program on Interactive and Cognitive Environments (ICE).