Dr. Patrizio Campisi  
Professor  
Universita' degli Studi Roma Tre  
Rome, Italy  
campisi@uniroma3.it  

Topic: Multi-Matcher Dynamic Signature Recognition with Protected & Renewable Templates  
Authors: Emanuele Maiorana, Patrizio Campisi, Alessandro Neri  

Abstract: In this paper we present a protected multi-matcher dynamic signature verification system which exploits score-level fusion techniques to combine Hidden Markov Model (HMM) and Dynamic Time Warping (DTW) classifiers. The considered on-line signature templates are treated with repeatable and non-invertible transformations, able to generate secure and renewable templates which can be fed to function based matchers such as HMM and DTW. An extensive set of experiments shows that the combined use of HMM and DTW based classifiers guarantees remarkable performances in terms of both recognition rates and template renewability, while providing proper security to the employed biometrics.  

Biography: Patrizio Campisi (Ph.D.) is Associate Professor at the Department of Applied Electronics, Universita degli Studi Roma Tre, Roma, Italy. He was a visiting researcher at the University of Toronto, Canada in 2000, at the Beckman Institute, University of Illinois at Urbana-Champaign, USA in 2003, a visiting professor at the Tampere University of Technology in 2004, 2005, and a visiting professor at the École Polytechnique de l'Universita de Nantes, France in 2006, 2007, and 2009.  

His research interests are in the area of digital signal and image processing with applications to biometrics and secure multimedia communications. He is co-recipient of an IEEE International Conference on Image Processing 2006 (ICIP06), an IEEE Biometric Symposium 2007 and of an IEEE Second International Conference on Biometrics: Theory, Application and Systems 2008 (BTAS2008) best paper award.  

Topic: Security and Privacy in Biometric Systems: Two Hindering Requirements?

Abstract: In the last few years biometric technologies have been employed for automatic people recognition at an increasing rate due to several inherent advantages they offer over conventional methods like the ones based on what a person knows (e.g. password, PIN) or what a person has (e.g., ID card, token). As a consequence of the widespread deployment of biometric technologies, serious concerns related to the security of biometric systems and to the privacy of the used personal information arise. In this talk, the main security threats and attacks related to a biometric system are discussed and the corresponding countermeasures are illustrated. The potential privacy-invasive biometric misuses, which could lead to discriminate or profile the user for undeclared secondary purposes, are described. Both procedural approaches and technological solutions to deploy privacy compliant biometric applications are given. Finally, the interrelationship between security and privacy is discussed and the possibilities to jointly optimize both these requirements are investigated.

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