Biometric Technologies For Automated Border Control

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Room 102-D, Engineering Building 1

LECTURE ABSTRACT

Automation of border control gates, as well as easy identification in a variety of daily-life applications (ranging, e.g., from home banking to e-commerce and e-government), requires a high degree of confidence in the identification. Modern solutions are based on biometric technologies to ensure standard quality in operation, by mimicking the usual activities performed by humans in identifying individuals. Biometric technologies allow in fact for efficiently analyzing human traits (e.g., face, fingerprint, iris, palm) for identity management. This talk will analyze the opportunities offered by emerging biometric technologies and their use for identity verification and recognition in automated border control systems and in many other critical applications. These technologies aim at increasing the usability of biometric systems and reducing the needs for carefully-controlled environment for biometry collection. Focus will be on less-constrained and contactless fingerprint, palmprint, and iris.

SPEAKER BIOSKETCH

Vincenzo Piuri has received his Ph.D. in computer engineering at Politecnico di Milano, Italy (1989). He is Full Professor in computer engineering at the Università degli Studi di Milano, Italy (since 2000). He has been Associate Professor at Politecnico di Milano, Italy and Visiting Professor at the University of Texas at Austin and at George Mason University, USA. His main research interests are: intelligent systems, artificial intelligence, signal and image processing, machine learning, pattern analysis and recognition, biometrics, intelligent measurement systems, industrial applications, digital processing architectures, fault tolerance, dependability, and cloud computing infrastructures. Original results have been published in more than 400 papers in international journals, proceedings of international conferences, books, and book chapters. He is Fellow of the IEEE, Distinguished Scientist of ACM, and Senior Member of INNS. He has been IEEE Vice President for Technical Activities (2015), IEEE Director, President of the IEEE Computational Intelligence Society, Vice President for Education of the IEEE Biometrics Council, Vice President for Publications of the IEEE Instrumentation and Measurement Society and the IEEE Systems Council, and Vice President for Membership of the IEEE Computational Intelligence Society. He is Editor-in-Chief of the IEEE Systems Journal (2013-19), and Associate Editor of the IEEE Transactions on Computers and the IEEE Transactions on Cloud Computing, and has been Associate Editor of the IEEE Transactions on Neural Networks and the IEEE Transactions on Instrumentation and Measurement. He received the IEEE Instrumentation and Measurement Society Technical Award (2002). He is Honorary Professor at Obuda University, Budapest, Hungary, Guangdong University of Petrochemical Technology, China, Muroran Institute of Technology, Japan, and the Amity University, India.