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Biometric Recognition: How Do I Know Who You Are?

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Abstract

A wide variety of systems require reliable personal recognition schemes to either confirm or determine the identity of an individual requesting their services. The purpose of such schemes is to ensure that only a legitimate user, and not anyone else, accesses the rendered services. Examples of such applications include secure access to buildings, computer systems, laptops, cellular phones and ATMs. Biometric recognition, or simply biometrics, refers to the automatic recognition of individuals based on their physiological and/or behavioral characteristics (e.g., fingerprint, face, iris, gait). By using biometrics it is possible to confirm or establish an individual's identity based on ?who she is?, rather than by ?what she possesses? (e.g., an ID card) or ?what she remembers? (e.g., a password). Biometric systems also introduce an aspect of user convenience; they alleviate the need for a user to ?remember? multiple passwords associated with different applications. A biometric system that uses a single biometric trait for recognition has to contend with problems related to non-universality of the trait, spoof attacks, limited degrees of freedom, large intra-class variability, and noisy data. Some of these problems can be addressed by multimodal biometric systems that integrate the evidence presented by multiple identity traits of a user. In spite of the fact that the first Automatic Fingerprint Identification System (AFIS) was installed around 1965, biometric recognition remains a difficult pattern recognition problem. In this talk, we will give an overview of biometrics, representation and matching problems, state-of-the-art performance figures and associated system security and privacy issues.

Gastgeber: Prof. Dr. Hans Burkhardt

Alle Interessenten sind recht herzlich eingeladen.

Organisation : Prof. Dr. B. Becker / F. Schmiedle

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