TECHNOLOGY

Active User Authentication Using Facial and Gesture Recognition

OVERVIEW

User authentication on mobile devices has become an important issue as these types of devices are increasingly linked with sensitive accounts and data. Most devices have some form to restrict access, such as a PIN entry or fingerprint reader, but these security mechanisms only verify at the time a device is unlocked. If a malicious user gains access to an unlocked device or is able to spoof the verification, this method of security provides no protection.

Researchers at the University of Maryland have developed a method to authenticate users of mobile devices on a continuous basis using a combination of facial recognition and user gesture input. Using sparse or low-rank representation based classification methods, software can use normal inputs from a front facing camera and the user's gestures via a touch screen to classify actions of a user to determine if the current user is the same as a known, authorized user. By fusing the two input sources, the developed algorithms can produce a higher degree of accuracy in recognizing a user. By integrating these features with learning algorithms, it is possible to create a program that continuously adapts to user behavior and provides security throughout the active use of the device.

APPLICATIONS

· User Authentication in mobile devices

ADVANTAGES

· Continuously monitors input for active verification
· Multiple inputs reduces success of spoofing attacks

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IS-2014-164