

# An Implicit Author Verification System for Text Messages Based on Gesture Typing Biometrics

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Gesture typing is a popular text input method used on smartphones. Gesture keyboards are based on word gestures that subsequently trace all letters of a word on a virtual keyboard. Instead of tapping a word key by key, the user enters a word gesture with a single continuous stroke. In this paper, we introduce an implicit user verification approach for short text messages that are entered with a gesture keyboard. We utilize the way people interact with gesture keyboards to extract behavioral biometric features. We propose a proof-of-concept classification framework that learns the gesture typing behavior of a person and is able to decide whether a gestured message was written by the legitimate user or an imposter. Data collected from gesture keyboard users in a user study is used to assess the performance of the classification framework, demonstrating that the technique has considerable promise.

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