



# Deep Behavioral Biometric Verification

Passive Biometric Solutions for  
Security and Monitoring

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## OVERVIEW

Assured Information Security (AIS) developed a remarkable deep learning-based biometric framework for performing user verification. Developed for DARPA, this technology can be used to continuously verify the identity of individuals on digital devices with high accuracy using far less data and processing than competing technologies.

## Unobtrusive Multi-Sensor Verification

- Uses behavioral biometric signatures to verify the identity of users
- Extracts distinguishing characteristics from natural user interactions
- Operates in the background without interrupting the user
- Practical continuous verification that operates discretely
- Includes keystroke, mouse movement, touch/swipe and gait sensors
- Works on workstations, mobile devices and wearable devices

## High Accuracy Using Less Observations

AIS's biometric verification framework uses deep learning models to automatically learn features present in the biometric data that cluster data from an individual and spread data to multiple users. The resulting features generalize well and are far more effective than traditional hand-crafted features. The resulting model is more precise and uses orders of magnitude less data than prior technologies. With five minutes of observation, the multi-modal sensor fusion achieves over 99% accuracy. Initial verification can be performed on 125 characters (e.g., a tweet)! The models can be trained offline and have very limited computation requirements once deployed.

## KEY FEATURES

- Multi-modal
- Passive and unobtrusive
- Ultra-low data requirements
- High accuracy



**Interested in Learning More?**

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## About Assured Information Security (AIS)

AIS is a cyber and information technology company that plays a leading role in supporting critical cyber operations for the United States Department of Defense and Intelligence Community. AIS employs expert engineers and research scientists across the United States.