Continuous Verification Using Multiple Biometrics

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Motivation
In a high risk environment, we need a system that can verify the identity of the user continuously.

Our Approach
We use passive biometrics (face and fingerprint) to do continuous verification.

Key Features
1. Holistic Integration
   - A Dynamic Bayesian Network is used to combine biometric observations over time and across modalities.
2. Flexible Architecture
   - Asynchronous and distributed modality verifiers. Hence easier to plug in additional modalities.
3. Low Computational Overhead
   - CPU overhead: 5 to 10%.
4. Integration with Operating System
   - Slow down/stop user processes.

Architecture

Integration

CPU Overhead

Experiments