

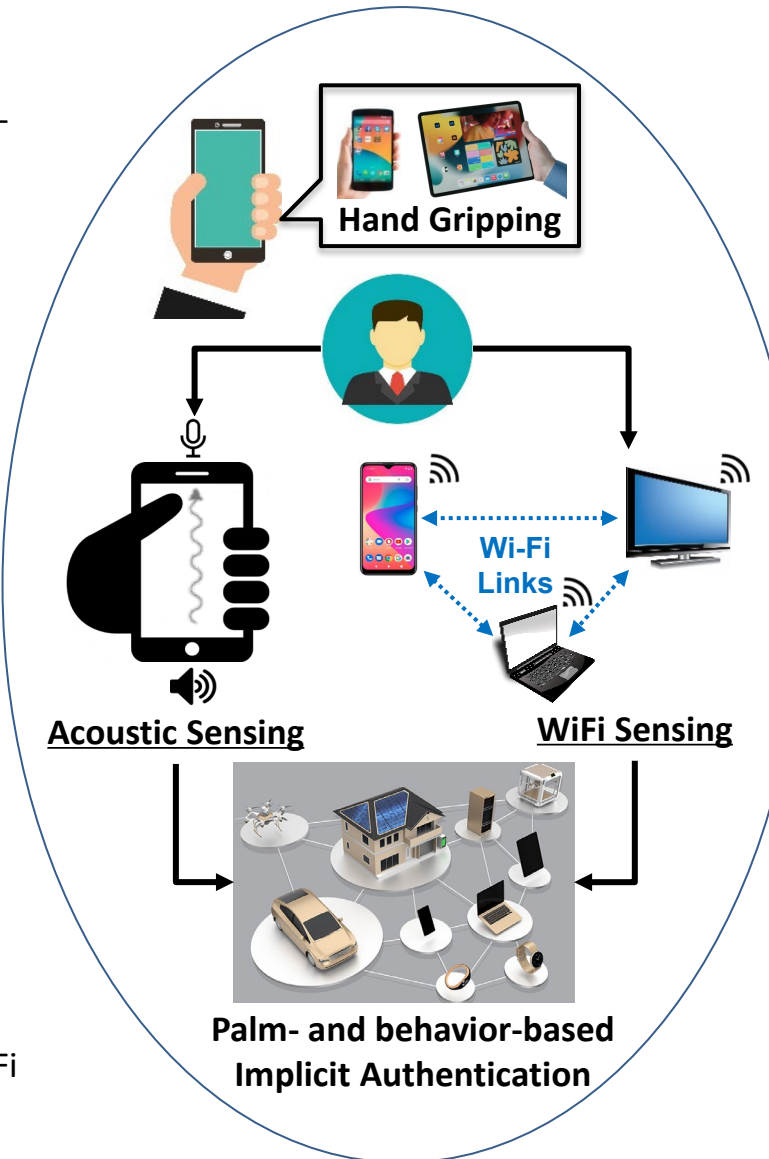
Exploiting Physical Properties in Wireless Networks for Implicit Authentication

Challenge:

- Explore palm- and behavior-based biometrics for continuous and low-effort authentication
- Extract effective features to characterize palm and behavior characteristics
- Build systems using readily-available sensors/devices

Solutions:

- Hand gripping- and palm-biometric-based authentication via acoustic sensing
- Use built-in speakers and microphones of mobile devices
- Behavior-based authentication via WiFi
- Use existing commodity WiFi



Scientific Impact:

- Advance knowledge in behavior-based authentication
- Contribute to the adoptions of customized mobile and IoT applications
- Validate the proposed strategies on commodity mobile and IoT devices

Broader Impact and Broader Participation:

- Advance the foundation of WiFi and acoustic sensing
- Involve curriculum design and K-12 students
- Facilitate emerging mobile and IoT applications

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