

## Verify Identity Using Videos of Finger Movements

**Finger movements** from commodity cameras provide novel biometric identification. Video of finger movements provides a straightforward, low-cost, robust alternative to complex fingerprint identification. This technology employs a neural network architecture that utilizes a combination of information redundancy, classification, and cosine embedding losses for reliable identity verification.

### Problem:

- Identity verification using fingerprints requires dedicated sensors, adding complexity and cost
- Static biometric identification systems are subject to presentation attacks (spoofing)

### Solution:

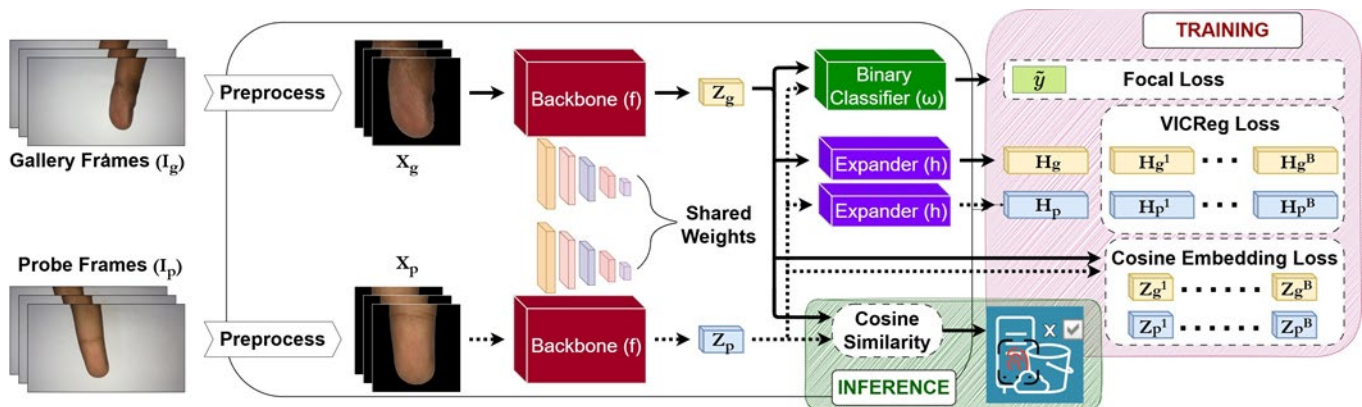
- Finger-Video based identification provides a novel, state-of-the-art approach to biometric identification

### Advantages:

- Use of commodity cameras reduces complexity and cost
- Video adds a dynamic component to biometric identification that makes spoofing difficult
- Finger-video based identification methods do not rely on fingerprints and additional sensors

### Applications:

- Contactless Identity Verification
- Access Control Systems
- Digital Identity Verification
- Mobile Payment Systems
- Voting Systems
- Healthcare patient Identification



For More Information contact:

George Mason University, Office of Technology Transfer  
 703-993-8933 ott@gmu.edu <https://ott.gmu.edu/>