Leveraging Movement, Posture, and Anthropometric Contexts to Strengthen the Security of Mobile Biometrics

Challenges:

- Devise new behavioral biometric algorithms that leverage posture, movement, and cohort characteristics to reduce authentication errors
- Reshape behavioral biometrics to combat forgery attacks

Scientific Impact:

- Quantify the impact of posture, movement, anthropometric, and cohort variables on behavioral authentication using precise 3D motion capture measurements
- Quantify the efficacy of transparent user challenges in increasing adversary's effort in constructing and delivering forgeries
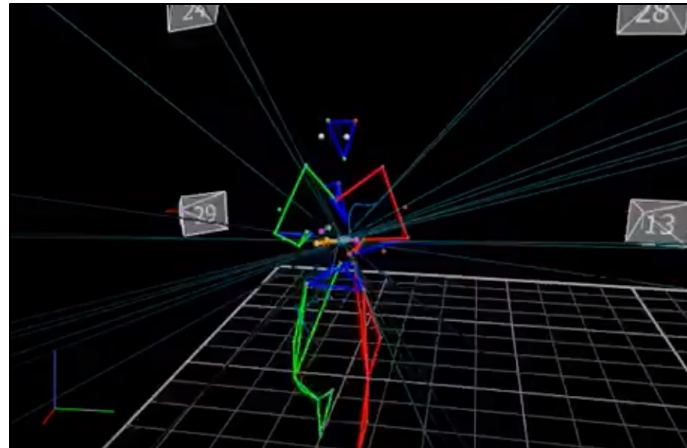
Solutions:

- Implement an adaptive behavioral biometric authentication framework that leverages contexts to reduce authentication errors
- Design active forgery countermeasures, and evaluate how these countermeasures impact forgery detection and usability

Broader Impact:

- Disseminate results and outcomes to high-school students
- Disseminate subject data to research community
- Support two undergraduate students each year