

# Gait Recognition for Automated Visual Surveillance and Security

## Abstract:

The security of high-privileged premises like self-service bank and company safety vault is very crucial. In reality, many robberies and violent events have occurred at these premises and resulted in great financial losses and physical injuries. If these events can be instantly detected and controlled, the resulting damages could be reduced. However, as the majority of the present video surveillance systems cannot automatically detect these events, they are not able to stop the violent incidents or reduce the damages incurred. In this respect, gait recognition appears as an attractive solution to this problem. Gait recognition is used to signify the identity of a person based on the way the person walks. This is an interesting property to recognize a person, especially in surveillance or forensic applications where other biometrics may be inoperable. For example in a bank robbery, it is not possible to obtain face or fingerprint impressions when masks or hand gloves are worn. Therefore, gait appears as an attractive solution because gait is discernable even from a great distance.

## KEYWORDS

Gait recognition, Biometrics, Recognition from a distance, Machine learning, Computer vision

## Diagrams

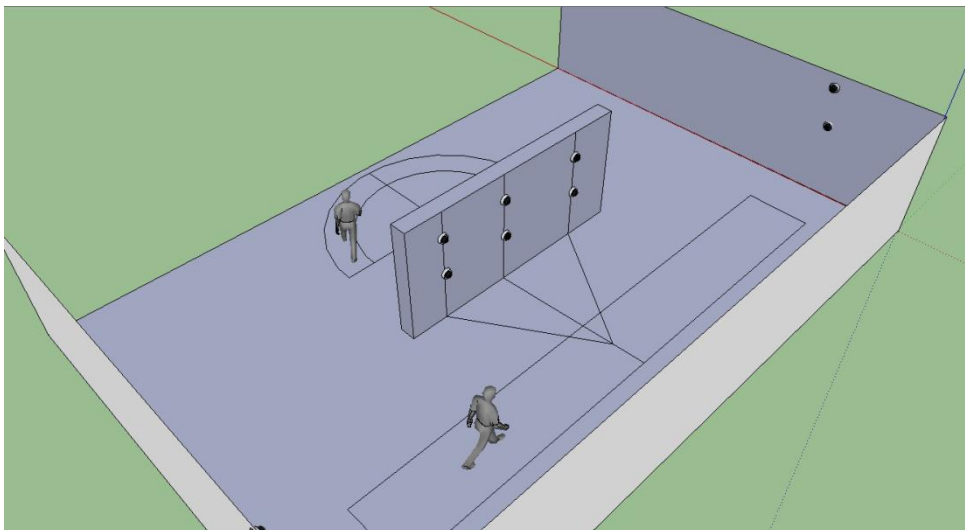


Figure 1. Gait Recognition Setting.

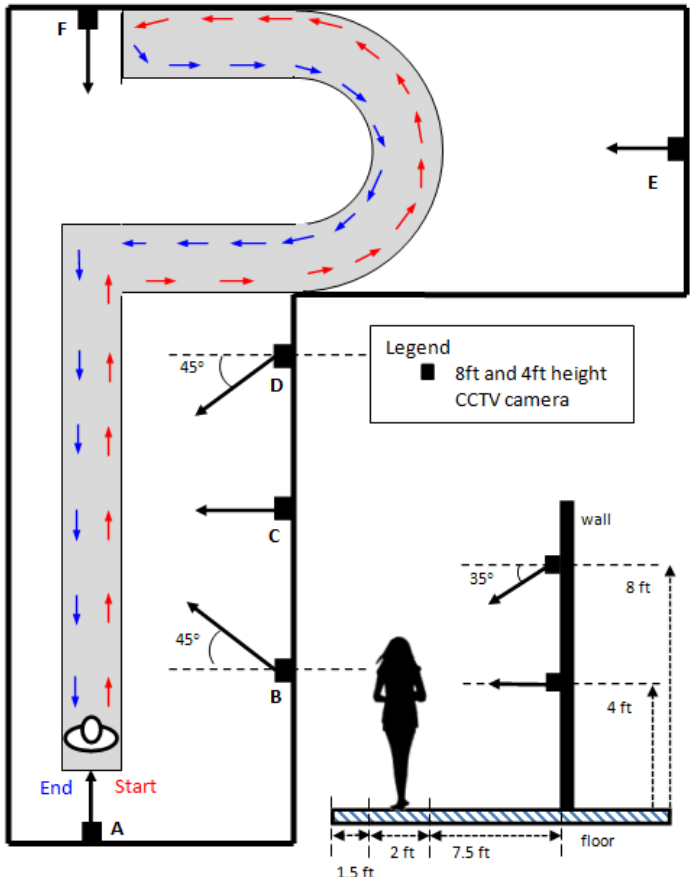


Figure 2. Layout of data collection.



Figure 3. Samples of subjects with different variations.













	Position A	Position B	Position C	Position D	Position E	Position F
8 ft View						
4 ft View						

Figure 4. Samples of gait images captured from various positions and heights.