Problem statement: Face Detection to identify Employees, Customers and Criminals (Security Check)

The code uses a ResNet-10 SSD Model for high speed face detection and the OpenFace nn4.small2 model to generate lightweight embeddings. Firstly, the model was fed with Employee, Customer and Criminal data for facial recognition. The ResNet-10 + OpenFace pipeline created embeddings for future identification of faces. Next, the camera was turned on to access the live video for face comparison with embeddings. After matching via Cosine Similarity, if an employee is detected, he is presented with a dialog box where he enters his password and chooses the location he wants to access. If he does not enter the password accurately, his access is denied, otherwise he is allowed to pass. If the person is a customer, he is greeted with the message "Welcome". If the person is identified as a criminal, an alert is sent to the police department nearby about his presence, and an alarm beeps. If the person is unidentified, he/she is displayed as unknown.