Introduction

1. This Defense System project aims to integrate 5 modules in 1 project. Motion detection, Name detection, Emotion Detection, Mask Detection and Height Detection are the modules available. Menu driven program to navigate through modules.

\*Use external USB camera for better accuracy \*

Requirements

Project requirements

1. Python 3.x
2. Compatible **Code-editor** or **Integrated Development Environment** **(IDE)**.
3. Compatible Graphics Processor (able to run necessary Python Libraries).

Required Python Libraries

1. TensorFlow
2. Flask
3. Keras
4. OpenCV
5. ItsDangerous
6. Flask\_bcrypt
7. Imutils
8. Numpy
9. Copy
10. Matplotlib
11. PIL

Steps

1. Install the necessary Python Libraries.
2. Open the project directory.
3. Open *name* folder.
4. Run *01\_face\_dataset.py* to capture images. Enter user id as 1, 2, etc.
5. Run *02\_face\_training.py* to train the model.
6. Open ***app.py*** in appropriate code editor.
7. On line 342, edit names according to the user id in step 4.
8. Save & run ***app.py.***
9. A web portal will open and click on start.
10. An index of choices will open containing 5 options asking to run specific module.
11. Click on the required module to run it.