

Automatic Door Open on Face Recognition

Most doors are controlled by people who use keys, security cards, a password, or any other pattern to open the door, In this project I helped users to improve door security in sensitive locations, using artificial intelligence techniques in face detection and recognition.

Users' facial images can be stored in the database.

This system mainly consists of three subsystems:

1) Face detection and recognition:

At this stage, the face area in the image is detected. If the face is recognized, the value of true will be returned to the variable in which we save the results. But if the face is unknown, the value of false is attributed to it.

2) Sending data to the microcontroller:

After processing the data and identifying whether the face is known or not, we send a signal to the microcontroller from the serial port through the pyserial library

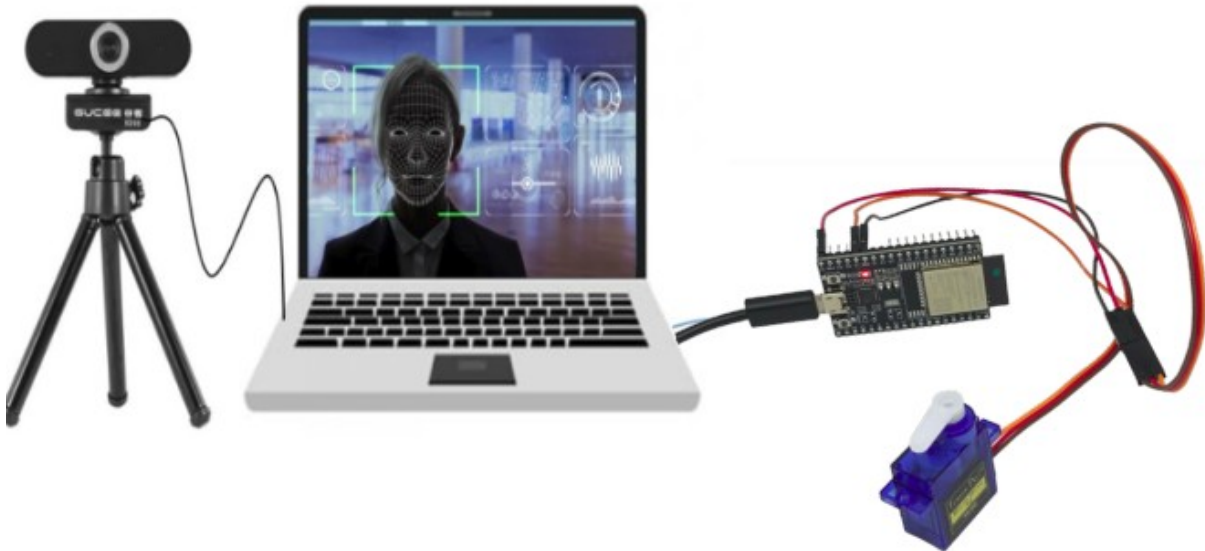
In the first case, if the face is known, we send ON, and in the second case, if the face is unknown or there is no face in the picture, we send OFF.

3) Receiving data in the microcontroller and opening or closing the door:

The data sent from the serial port is read into the microcontroller

If it is ON, it will command the door to be opened and the green light will turn on, but if it is OFF, the red light will turn on and the door will not be opened.

Schematic:



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