

Technical skills Learnt

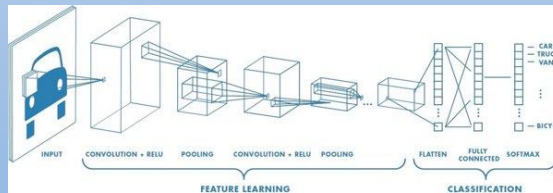
- ❖ Python
- ❖ QT Designer
- ❖ QTPY
- ❖ PyTorch
- ❖ MySQL
- ❖ Face_Recognition

Skills Learnt

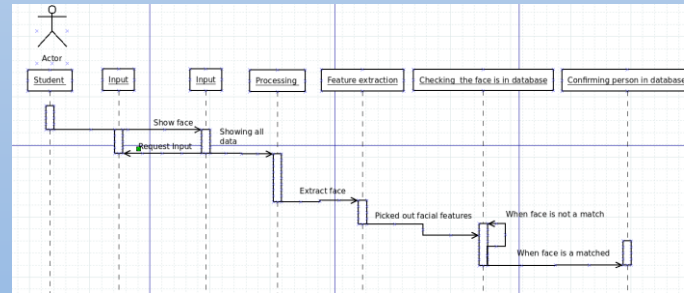
- ❖ Face Recognition Techniques
- ❖ Splitting project in to manageable tasks
- ❖ Convolutional Neural Networks

Neural Networks

Face Recognition has four main steps Face detection, feature extraction, face comparison using a database that stores images. Stores a vector of x^2 of each persons face.



Design work



Methodology

The methodology used for the face recognition system was feature driven Development and it's good for testing and analysis at the end.

Data is gathered to test facial recognition in the register system. Comparisons of faces are taken to get the closest possible outcome to the right person.

Requirements

- ❖ To correctly identify a face.
- ❖ To compare the person's face in the system
- ❖ Run in a Linux environment
- ❖ Environment shouldn't be brightly lit or really dark.
- ❖ Camera in correct position and focused.
- ❖ Time limit to recognise a face.

Resources

Hardware required for implementation includes:

- ❖ Computer running in Linux environment
- ❖ Web Camera
- ❖ Graphics card

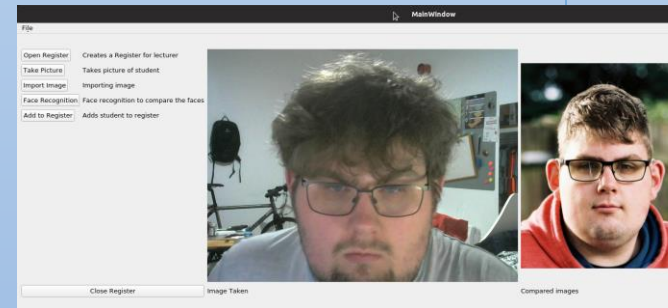
Implementation

System Developed

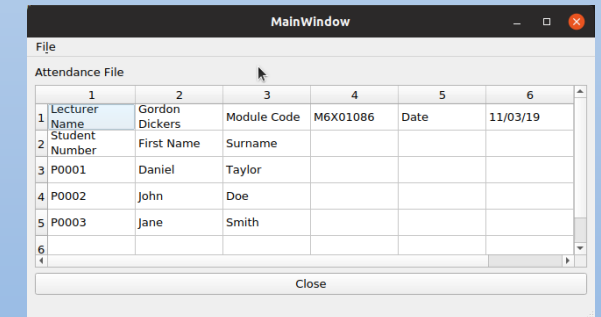
The system consists of a program where the lecturer sets up a register, the students have an image taken from a live feed camera. This image is compared to images stored in a folder. When an image is matched the person is added to the register.



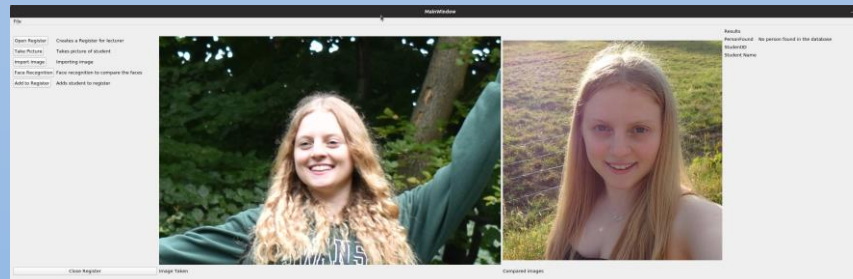
User Interface



Face Comparisons



Example Register



Benefits of the System

- ❖ No more use of paper.
- ❖ System easy to use

Future Improvements

- ❖ Improve user interface.
- ❖ Analyse the accuracy with larger datasets
- ❖ Implementing the database