**CS451**

**Applied Artificial Intelligence**

**Semester Project:**

Facial Recognition Using Artificial Neural Networks

**Objective:**

The objective is to design a facial recognition system which takes in an image portrait as an input and with the help of initially trained dataset determines whether the face should be positively IDed or not. Images of five different people were taken, five per negative person and 20 for positive person. The images were first converted to grayscale, and then, the face detection and landmark extraction was applied using opencv and dlib python libraries. Numpy was used for matrix formation of Euclidean distance feature extraction. The AI used involves training dataset by implementing artificial neural networks from scratch and using forward and back propagation for updating weights.  
Finally, test images were used to classify pictures into positive and negative results.

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