Proctored Examination System

Deploying Neural network model for Human detection using flask in the server end

Description :

        The concept is to make a examination system for Online application, where it can be invigilated using AI (Deep learning model) for any kind of malpractice. In the web application system the web-cam of the client system will take pictures with a certain interval of time. Those pictures will be sent to the backend server for verification and detection if the pictures contains a human facing forward on his/her computer screen or not. It can detect things such as :

        1. No presence of human.

        2. Fake Image of a human.

        3. Can classify between real Human from Human like objects.

Required software and libraries :

        Here we have used python for our neural network model and also used libraries – Tensorflow, Keras, Scikit-Image, Numpy, ImageDataGenerator.

Dataset :

        We have used a dataset "Human vs Non human" . Where there are pictures of human faces and other category is for non human objects like cat, dog, car, plane etc.

Model making & training :

        The model has been created with 5 layers using Convolution and max-pooling, and dropping off some nodes with poor performance. It has been trained for 10 epochs resulting in a validation accuracy of about 94%.

Deployment :

        For the actual system, we have created a html page with some javascript on it to click pictures of the user and sending it to the backend. In the backend we have flask where the neural network model will be preloaded for prediction of Human presence in the pictures.