**Innovation**

**SIGNATURE RECOGNITION MODEL**



**THE USE OF FACE RECOGNITION ARCHITECTURE:**

I have read a few research papers on Using Machine Learning models to perform Signature Verification. Most of them used simple CNN and/ OR Feature Generator Approach.

I wanted to do something new. I firstly tried to build a feature encoder based on simple CNN and Tried to train it, but results were terrible. The problem was that the signature of same person varies hugely, this is because a lot of their external factors like inclination of hand, thickness of pen , etc can also affect the signature. The following is the image showing several real signatures of same person, on top each other. And If the signature is forged by a skilled person, then the difference between real and original are almost nil to a human eye. Which is quite evident to emphasize that it is not same as classifying a image. Hence The feature generator had to be trained to handle variablility of real signature as well as pick out the different features enough to distinguish the forged from real.

**This kind of problem is solved in FACE RECOGNITION**. Each person’s face has a lot of variability(e.g., they may be smiling etc.) so a **Face Recognition model has to learn to respectthe variability of a persob’s face and yet pick out certain distinguishing featyres so as to be able to distinguish them from other person’s face.**

Hence deriving the idea from there, I constructed and trained ENCODER model on the same lines an Siamese network for Face Recognition. And It performed wonderfully!! I nearly got 100percent accuracy(as the test and train sets were small)

**Lessons Learnt**

**If a problem requires to classify between objects in which intraclass variability and interclass Similarity is high, then using Siamese network of Face Recognition approach is a considerable choice.**