Signature Verification

Problem Statement:

In today's digital world, handwritten signatures play a crucial role in validating the authenticity of documents and transactions. Manual signature verification, however, can be time-consuming and error-prone. To address this challenge, the objective is to develop a machine learning model that can automatically verify the authenticity of handwritten signatures, enabling faster and more accurate signature validation processes.

Problem Description:
The task at hand is to create a machine learning model capable of distinguishing between genuine and forged handwritten signatures. Given a dataset of signature images, the model should be trained to return the match percentage between the two input signatures.

Dataset Link: [Signature Dataset](#)

Key tasks
1- Data Preprocessing: Use the data provided in the above link to split it into training and validation sets.
2- **Model Architecture**: Design a convolutional neural network (CNN) architecture suitable for signature verification. Experiment with different layers and hyperparameters to optimize model performance
3-**Evaluation:** Evaluate the model's performance using the validation dataset. Use relevant metrics such as accuracy, precision, recall, and F1-score.

Deliverables-
1- Python code used for model training and verification.
2- Model training and evaluation results, including accuracy and relevant metrics.

Note: Feel free to use any open sourced research papers, additional dataset etc for better results.