SIGNATURE VERIFICATION

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IDEA DESCRIPTION

- In this project, we pass two images of the signatures that are test image and the input that we pass to evaluate
- After passing the images, we evaluate the score difference between two images of signature.
- We apply Feature engineering models like Feature extraction to compare the images overall and Edge detection to observe the processed images to build the signature verification application. Image filtering would be used so that we will compare original images that have no noise
- CNN will be used for image processing

GOALS

- The first goal would be to achieve noise free image by noise filtering
- Another goal of the model is to extract features from the images that would help up clearly differentiate between the images.
- The model will use edge detection after that step to make sure that there are no differences between the strokes of the test signature and the input signature
- With the help of CNN and deep learning techniques, the model will do the image processing part

OBJECTIVES

- The main objective of this model/project is to avoid forgeries
- Signature forgeries are used in places like banks to make sure that there are no financial frauds.
- This model will compare signatures from dataset that contains signatures on various documents passport, Valid drivers license and documents like lease before declaring the signature is fraud.
- This will make sure that the model is 100% confident about the output

MOTIVATION

- There are many financial frauds that happen due to signature frauds
- We wanted to use Feature engineering and machine learning techniques to make sure there is decrease in the number of frauds and cheatings are happening

LITERATURE SURVEY

- We did a research on the crimes that were committed by signature forgery and when we examined the signatures , we knew that they could have cleared been avoided by implementing this model

The url for the survey is given below:

https://www.handwritingexperts.com/texas/signatureverification_mobile.html?gclid=Cj0KCQjwnbmaBhD-ARIsAGTPcfUw-twmWc4Vruo52C2QcxXJBZ2JfD4yux1jw9xvI2EeOswu8M-kjWQaApGEEALw_wcB

FEATURES

The features that would be used in this project are:

- Gray scaling
- Noise filtering
- Feature extraction
- Feature descriptor
- Edge detection

EXPECTED OUTCOME

- The output will show whether the input image was matched to the test image or not
- If the image was not similar to the test image as well as the dataset, then the output will show that the signature is forgery, else it will display that the signature matches the original one.

References

- The main reference is taken from the ICEs that we worked on basis of feature extraction, graying and noise filtering.
- https://www.sciencedirect.com/science/article/pii/S1026309812001599
- https://link.springer.com/referenceworkentry/10.1007/978-0-387-73003-5_139