Writer Verification Challenge

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Problem Statement

"Writer verification"

A challenge for writer verification for the upcoming National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG) in 2023.
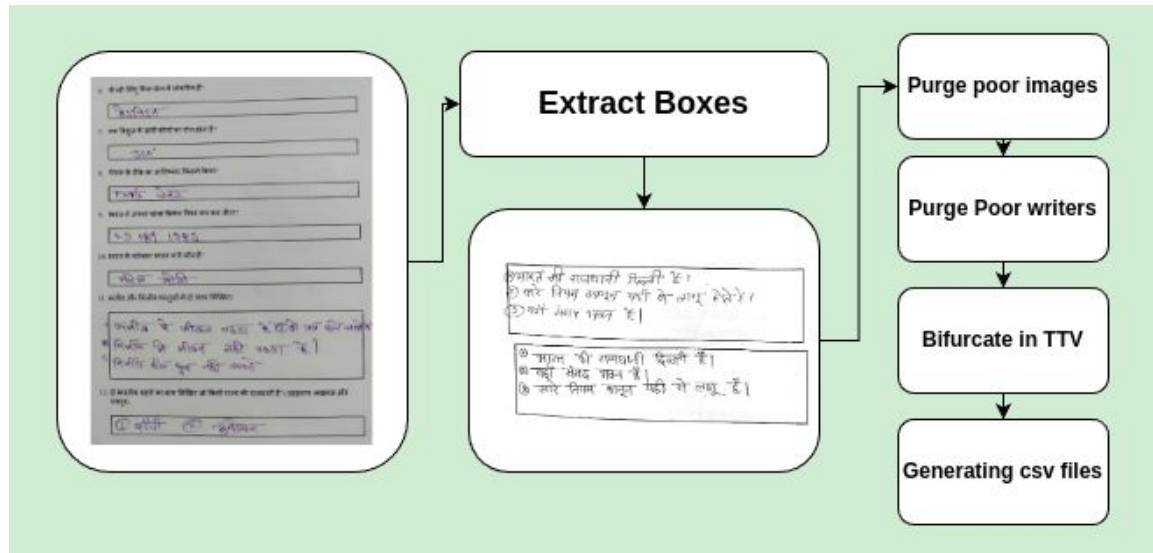
Tasks Undertaken

1. Prepared, cleaned, and balanced the dataset
2. Conducted a review of the literature on writer verification
3. Created a baseline for the challenge
4. Developed a website for the challenge

Dataset preparation

- 4,196 sheets, 2,098 writers
- Split into (75-20-5) train-test-val
- Each sheet had 5-6 boxes for answers
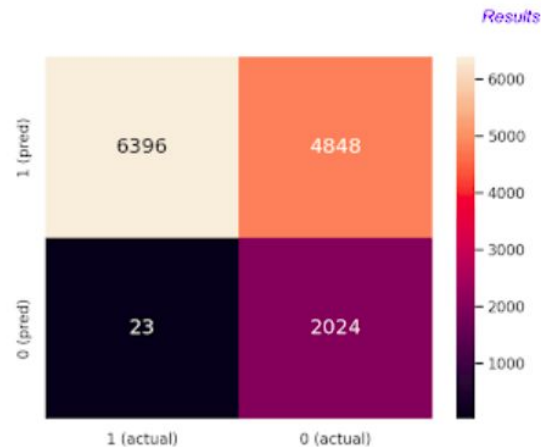 - Used [WordDetectorNN](#), [DBNet](#), [CRAFT](#), OpenCV


```
Folder Structure
WV-Dataset/
val.csv
test.csv
train/
|__Writer-1/
     |__img1
     |__img2
     |__img3
|__Writer-2/
...
test/
|__img1
|__img2
...
val/
|__img1
|__img2
...
```
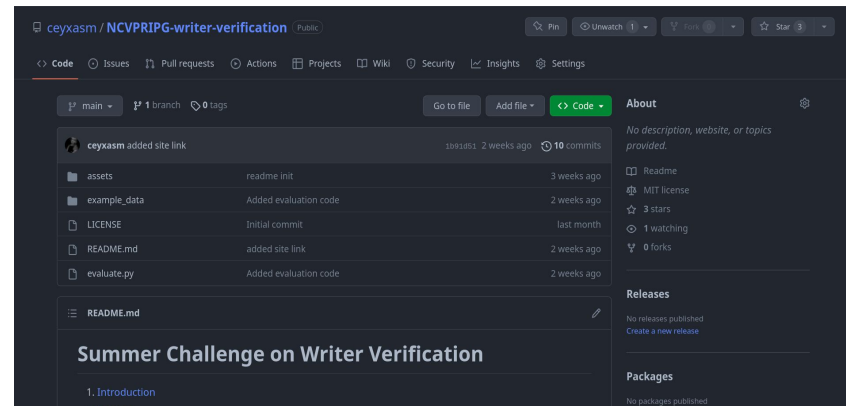
Literature Review & Baseline Model

- Reviewed numerous papers on writer verification
- Our problem is unique
  - Text-independent
  - writer-agnostic verification
  - sparse writer data
- Implemented the [Signet paper](#) for the writer verification challenge (along with Gyan Prabhat- P21AI001)
- Achieved a performance of 0.65 AUC on the test set, which served as the baseline for the challenge.
  - Accuracy- 63.35%
  - F1 Score- 0.72

Website and other components

- Created the website
- Developed the baseline repository
- Set up the challenge Discord server
- Contributed to the drafting of the challenge proposal
- Currently involved in the successful conduction of the writer verification challenge
- Will be carrying out other tasks as needed to ensure the challenge is completed successfully

THANK YOU