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CAPSTONE PROJECT PRESENTATION

AUTOMATION WITHIN HANDWRITING ANALYSIS

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TABLE OF CONTENTS

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LITERATURE SURVEY

Paper Name	Consortium	Author	Highlights of Paper
Comparative Analysis of Text Extraction from Color Images using Tesseract and OpenCV	IEEE	AS Revathi Nishi A Modi	Analyses the effect of unprocessed images and preprocessed images on the performance of py tesseract
Optical Charater Recognition using Tesseract and Classification	IEEE	Saurabh Dome Asha P Sathe	The paper presents the design and procedure of the OCR WebApp, which consists of three sections that are: Image-to-Text, Real-time OCR (using webcam), and Handwritten Text Recognition. In this project, OCR uses Tesseract as an engine to display the text to the user and HTR uses a Deep learning model to classify the letters and display them to the user.
Personality analysis through handwriting recognition	Taylor and Francis	Ajeet Ram Pathak Abhishek Raut Soham Pawar Mansi Nangare	To identify what kind of personality an individual has, traits can be classified based on an individual's handwriting. And this can be identified using the field 'Graphology'.

RESEARCH GAP

Here were some important key pointers we have seen which have been there as the research gaps in the Automation within Handwriting Analysis

Generalised Approach

Approaches available have made generic perspective towards the population regarding handwriting analysis

Homogenous Database

Different datasets have stored the entities used in the same set together, which creates difficulty in analysis

Cross-Relationship

The behavior of one entity in relation to other entity is not stored with analysis

Loss/Excluded features

Other features used in bridging the gap between blind, deaf and disabled people are left out

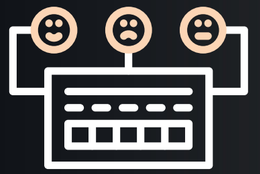
RESEARCH GAP

Cursive Writing

With the different types of handwriting & ways to write in english, one of the most difficult arena is cursive writing

Forgery

Issues with different people writing in the same way giving out false predictions



Pseudo Sentiment

Predictions over incorrect emotions

Accuracy

Neural Networks still have a lot of possibility for new things to come up advancement in algorithms to achieve 100% accuracy with less dataset given to train.

PROBLEM STATEMENT

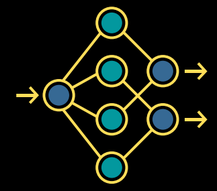
- We want to develop a personal module to assist and better analyse an **individual** through their **handwriting** using **artificial intelligence**, than what has been done so far which is quite **generic** and **limiting**.

- We not only aim to concentrate on recognizing **english characters** but also focusing on **minute details** during the data collection and training process

- For example, understanding the **cancelled-out/scribbled words**, the machine can itself add words with **scribbles** as to make the converted text or page **more human-like**.

- We also aim to understand the **user's personality** and **behaviour** through their handwritten notes.

TOOLS REQUIRED

- Python 3 
- TensorFlow 
- NVIDIA 
- NLP 
- OpenCV 
- Neural network 

FEASIBILITY

Technical Feasibility

Creation of our own dataset (images) due to lack of data

Market Feasibility

Project has a viability to be converted and capitalised

Operational Feasibility

Computationally has a chance to perform better than the existing algorithms using new methods

Social Feasibility

It could help various types of people in understanding their character

THANK YOU