

## SYNOPSIS

**Project Group No: B3**

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**Name:**

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**Project Title:** Handwriting Recognition and Writer Identification on text independent data

**Name of the Guide:** Durga Karthik/AP-III/CSE/SRC/SASTRA

### **Abstract:**

Identification of a person from his handwriting is one of the challenging problems, however, it is not new. No one can repudiate its applications in a number of domains, such as bio-metrics, forensic analysis, historical documents, and ancient manuscripts. Handwriting plays a key role in presentation of learned behaviour of the person. It is the main identity of a person. Deep learning-based approaches have proved as the best feature extractors from massive amounts of heterogeneous data and provide promising and surprising predictions of patterns as compared with traditional approaches. Automatic writer identification system helps in determining and identifying whether the given handwriting is truly matched and assigned to the claimed writer of handwriting.

### **Specific Contribution:**

1. Implemented Image Data Augmentation pipeline in the project, where I deployed techniques like rotation, random distortion and random cropping on the input image and generated 1000 snapshots of size 224\*224 for every single image. Stored the entire dataset consisting of 10000 images of 10 writers as trainset and testset in google drive.
2. Designed the Frontend UI of the web application using HTML, CSS and JavaScript.

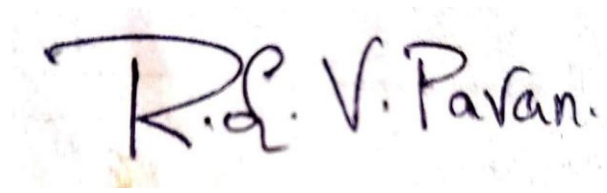
### **Specific Learning:**

1. Learnt about various augmentation techniques like rotating, flipping, distorting, zooming etc and understood their importance in increasing the size of the image datasets.
2. Learnt how to interact with a backend API through AJAX calls and render UI accordingly

### **Technical Limitations & Ethical Challenges faced**

1. Choosing the appropriate augmentation technique among the wide number of techniques along with proper configurations like clockwise/anticlockwise, degrees of change, height, width etc directly affect the quality of training and testing dataset
2. Rendering the UI elements to give a better user experience is highly thought-provoking.

**Keywords:** Handwriting Recognition, Convolutional Neural Networks, Artificial Neural Networks, Image Augmentation, AJAX, User Interface



(RANGA SATYA VISWA PAVAN)

**Name & Signature of the Student**



**Signature of Guide**

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