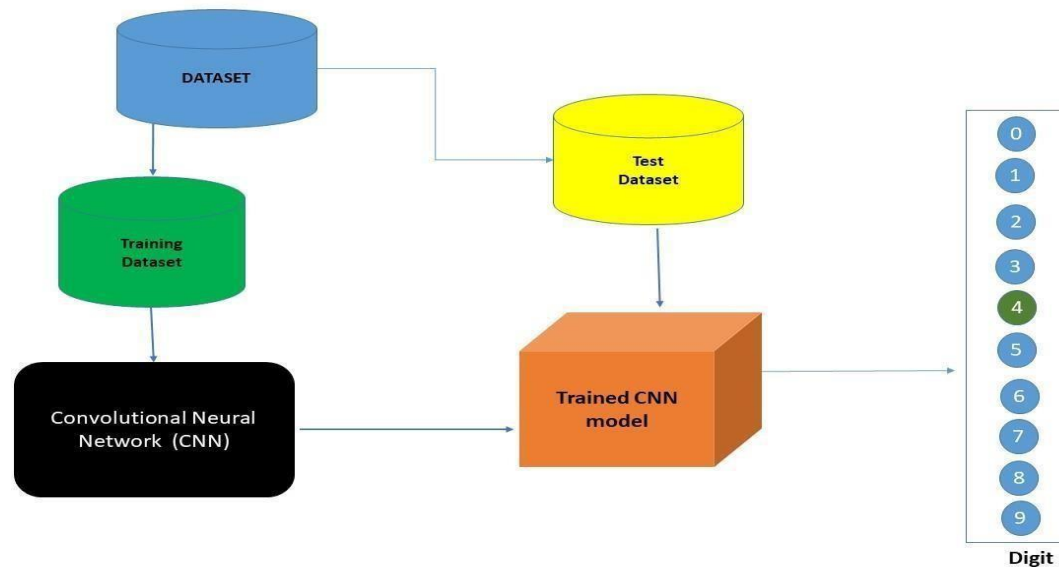


Project Design Phase-II Technology Stack (Architecture & Stack)

Date	17 October 2022
Team ID	PNT2022TMID50515
Project Name	A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITIONSYSTEM
Maximum Marks	4 Marks

Technical Architecture:

The architectural diagram of the model is as below and the Technology used is shown in table1 & table 2



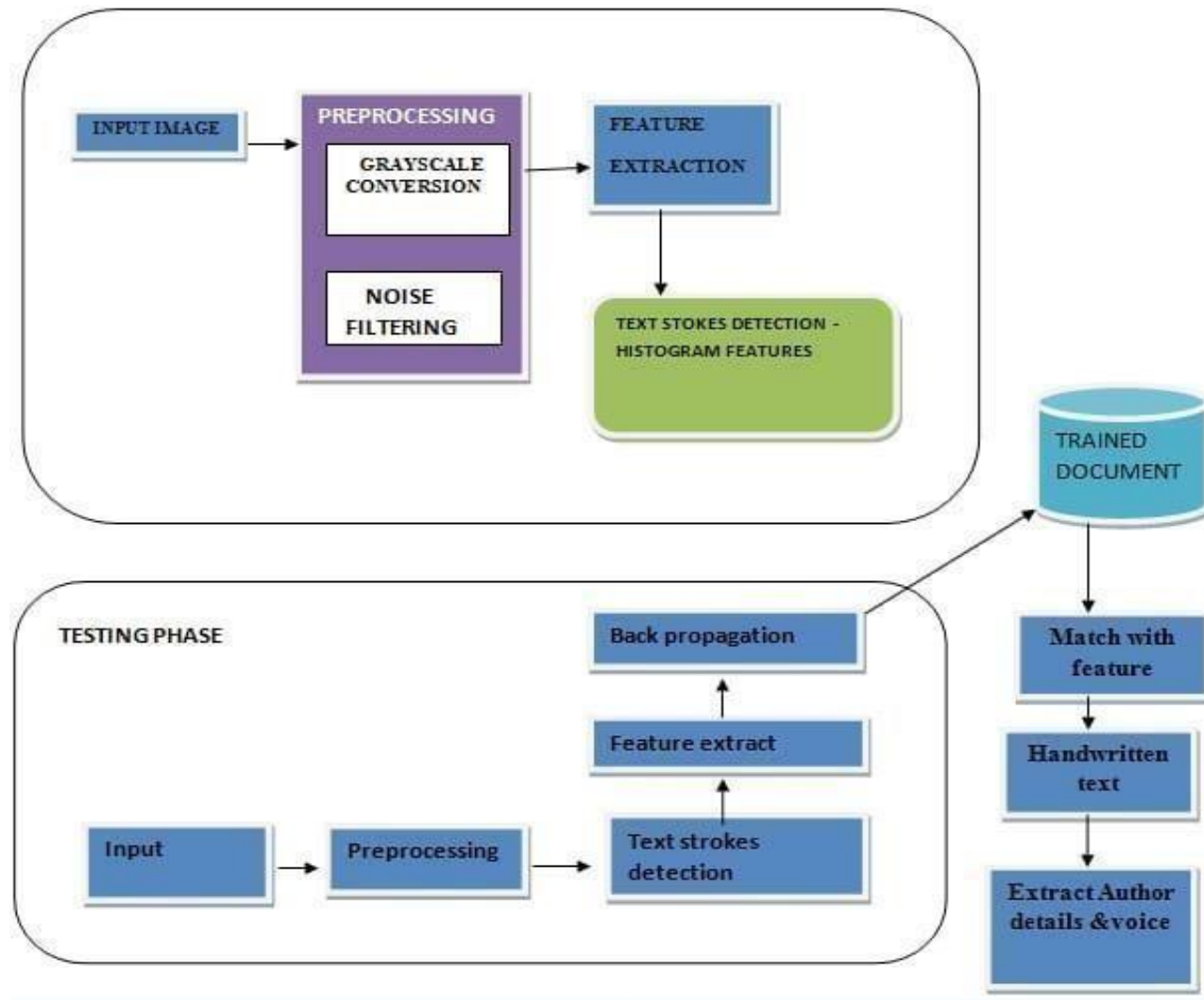


FIG. 1. BLOCK DIAGRAM

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g., Mobile Application	HTML, CSS, JavaScript / Angular JS / Node Red.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on AI	IBM DB2.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	IoT Model	Purpose of AI Model is for integrating the sensors with a user interface.	IBM AI Platform
10.	Infrastructure (Server / AI)	Application Deployment on Local System / AI Local Server Configuration AI Server Configuration	Local, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	SHA-256, Encryptions, IAM Controls, OWASP
3.	Scalable Architecture	Justify the scalability of architecture	3 – tier, Micro-services
4.	Availability	Abstract and Figures. The features for handwritten digit recognition have been introduced. These features are based on shape analysis of the digit image and extract slant or slope information. They are effective in obtaining good recognition accuracies	Distributed servers, IBM cloud
5.	Performance	The standard implementations of neural networks achieve an accuracy of ~ (98–99) percent in correctly classifying the handwritten digits.	Number of requests per sec, use of Cache, use of CDN's