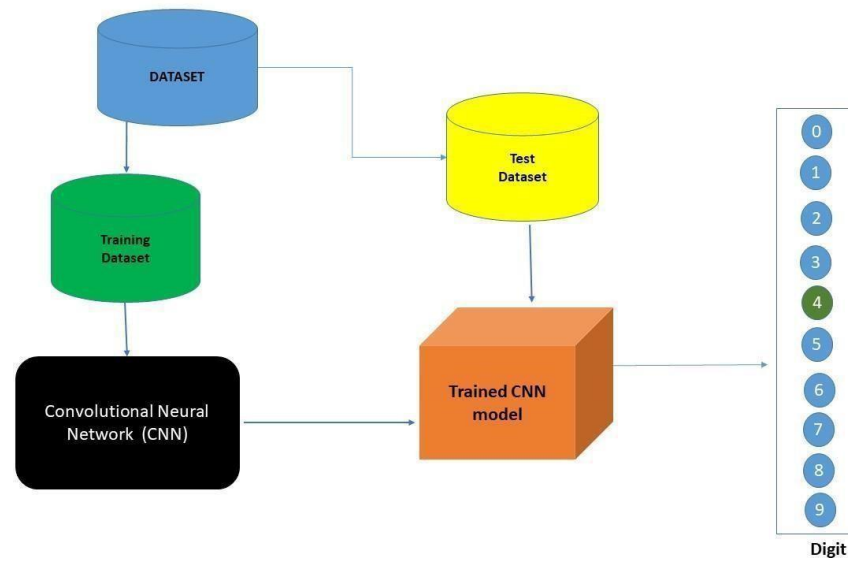


Project Design Phase-II Technology Stack (Architecture & Stack)

| | |
|---------------|---|
| Date | 15 October 2022 |
| Team ID | PNT2022TMID16152 |
| Project Name | A Novel Method for Handwritten Digit Recognition System |
| Maximum Marks | 4 Marks |

Technical Architecture:

The architectural diagram of the model is as below and the Technology used is shown in Table1



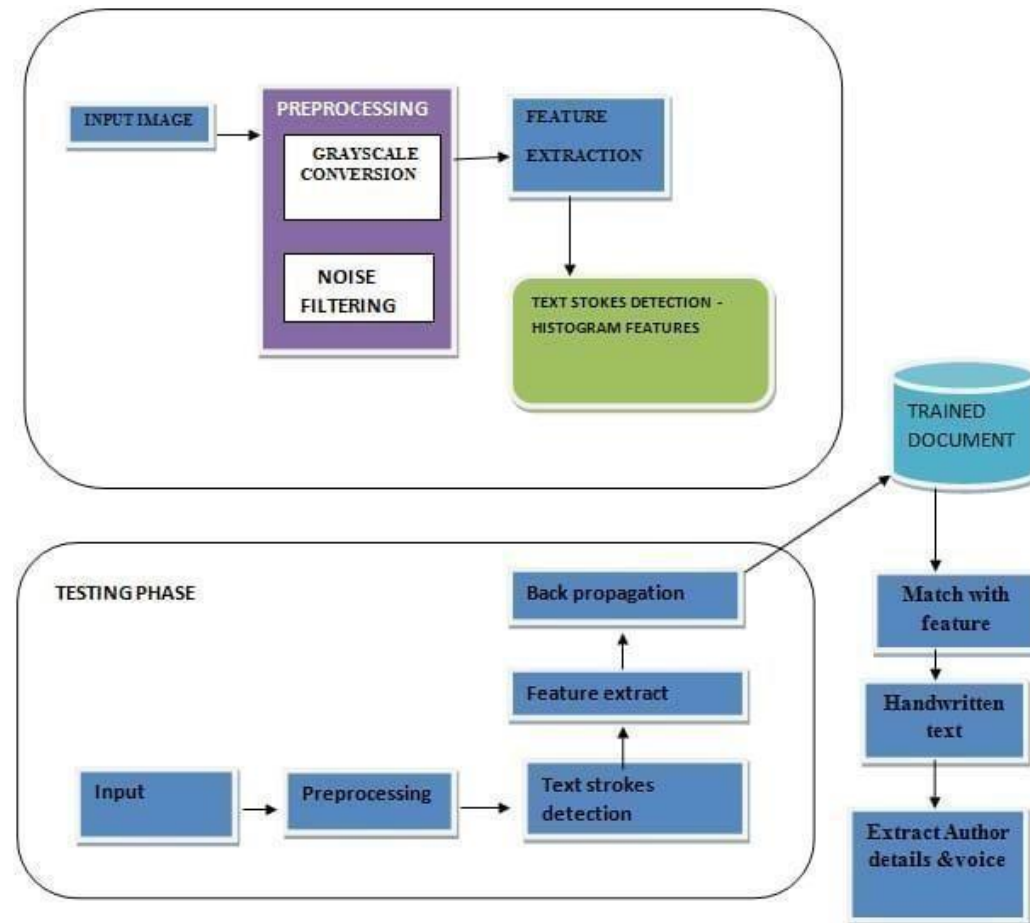


FIG. 1. BLOCK DIAGRAM

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 in cloud | 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. | Internet of Things Model | Purpose of AI Model is for integrating the sensors with a user interface. | IBM AI Platform |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model |
| 11. | 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 | Deep learning frameworks can help you upload data and train a deep learning model that would lead to accurate and intuitive predictive analysis. | Tensorflow, PyTorch |
| 2. | Security Implementations | The system should automatically be able to authenticate all users with their unique username and password | NA |
| 3. | Scalable Architecture | The system should be able to handle 10000 users accessing the site at the same time | NA |
| 4. | Availability | Information is restricted to each users limited access | NA |
| 5. | Performance | Should reduce the delay in information when hundreds of requests are given | Google Co-Lab Pro/ Require high end system. |