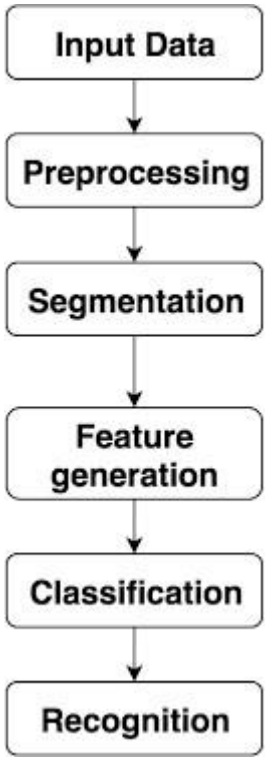
Project Design Phase-II
Technology Stack (Architecture & Stack)

Team ID	PNT2022-TMID16448
Project Name	Project – A Novel Method For Handwritten Digit Recognition System
Maximum Marks	4 Marks

Technical Architecture:



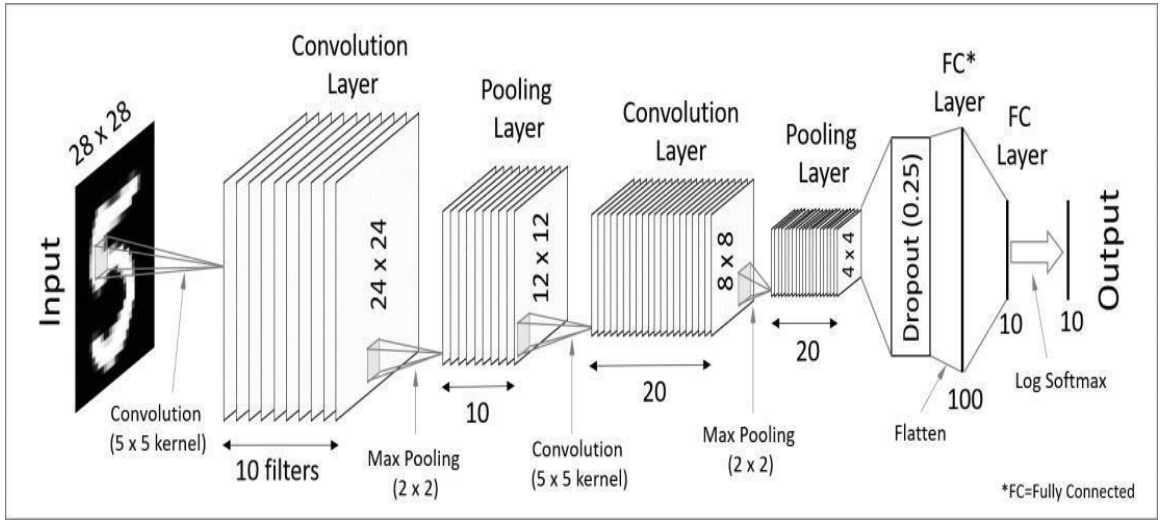

Input
28 x 28
Convolution (5 x 5 kernel)
Convolution Layer
24 x 24
10 filters
Max Pooling (2 x 2)
Pooling Layer
12 x 12
10
Convolution (5 x 5 kernel)
Convolution Layer
8 x 8
20
Max Pooling (2 x 2)
Pooling Layer
4 x 4
20
Flatten
Dropout (0.25)
FC* Layer
100
FC Layer
10
Log Softmax
10
Output
*FC=Fully Connected

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Logic for a process in the application	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 Cloud	IBM DB2, IBM Cloudant
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	IBM Weather API
9.	External API-2	Purpose of External API used in the application	Aadhar API
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry

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)	3 – tier, Micro-services

S.No	**Characteristics**	**Description**	**Technology**
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Distributed servers, IBM cloud
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Number of requests per sec, use of Cache, use of CDN's