

TECHNOLOGY STACK

Date	1 th November, 2022
Team ID	PNT2022TMID28868
Project Name	A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Technical architecture

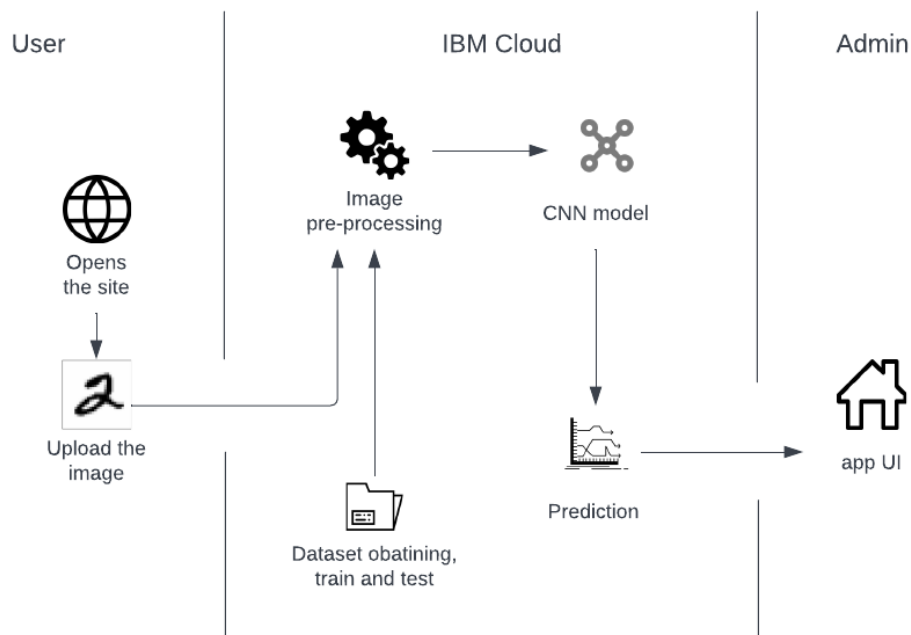


Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Login through the Web UI	HTML, CSS, JavaScript
2.	Application Logic-1	To download and process data	Python
3.	Application Logic-2	To train and deploy the model	IBM Watson ML service
4.	Database	User data and inputs	MySQL, NoSQL, etc.
5.	Cloud Database	Database Service on Cloud to store all the data	IBM DB2, IBM Cloudant etc.
6.	File Storage	To store user data and the input digit images	IBM Block Storage or Other Storage Service or Local Filesystem
7.	Machine Learning Model	Model to recognise the handwritten digits	Image Recognition Model

S.No	Component	Description	Technology
8.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The handwritten digit dataset	MNIST dataset
2.	Security Implementations	Only authorized user can access the data, users are authenticated with passwords	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	The model is highly scalable to see performance changes with design change	3-tier architecture
4.	Availability	The system will be available for the users when it is requested handling traffic well	Distributed servers
5.	Performance	The response time is small and user gets their request executed in seconds	Cache