Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	04 October 2022
Team ID	PNT2022TMID24683
Project Name	Smart Lender - Applicant Credibility Prediction for Loan Approval
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

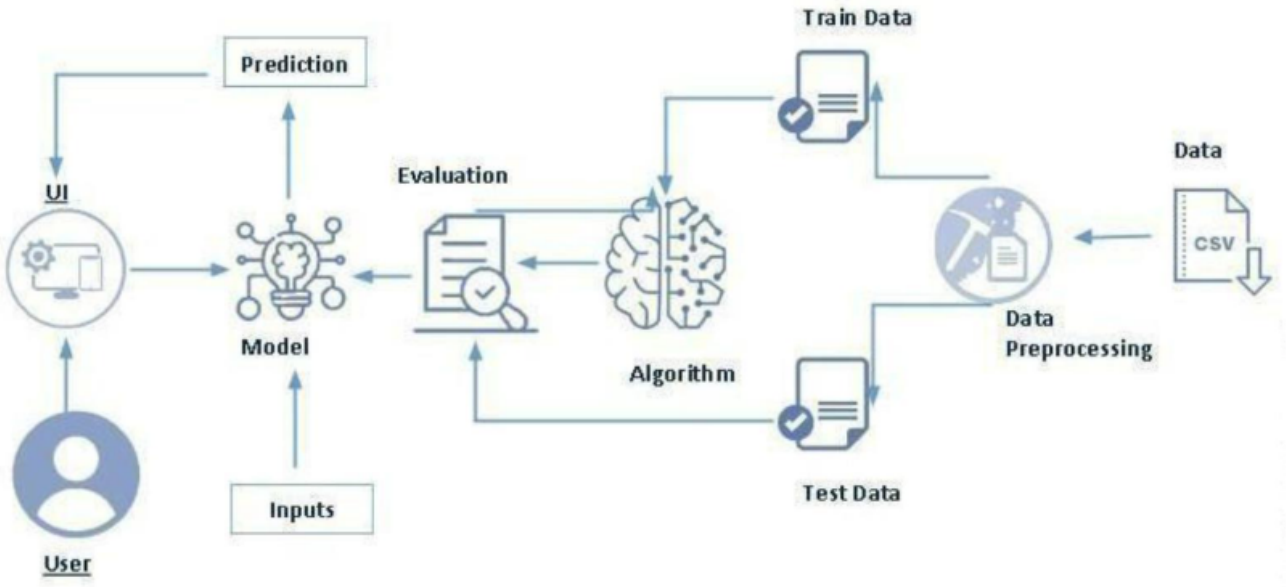

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Users interact with the application with the help of a web UI.	HTML, CSS, JavaScript
2.	Building application	Getting user information from UI and feeding it to ML model.	Python Flask
3.	Visualizing and analyzing data	Reading and understanding the data properly with the help of visualization and analyzing techniques.	Python pandas, NumPy, pickle, matplotlib, seaborn
4.	Pre-processing or cleaning data	Handling missing values, Handling categorical data, Handling outliers, and Scaling Techniques.	Python pandas
5.	Database	Data Type, Configurations, Loan Approval dataset.	MySQL, .csv file.
6.	Cloud Database	Database Service on Cloud, Deploying the model on cloud.	IBM DB2, IBM Cloudant, IBM Cloud, etc.
7.	Machine Learning Model	Using machine learning model for predicting loan approval.	Model building using classification algorithms such as Decision tree, Random forest, KNN, and xgboost.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks are used for building the application.	IBM Cloud
2.	Security Implementations	It secures information and data of the users and the bank lending the loan.	IBM Cloud provides layered security controls across networks and infrastructure.
3.	Scalable Architecture	Its supports various data sizes uploaded to the application by the users.	Web 3.0, IBM Cloud
4.	Availability	Creating multiple pages for a comfortable user interface experience.	HTML, CSS, JavaScript
5.	Performance	Withstand huge data and process them without crashing.	Python