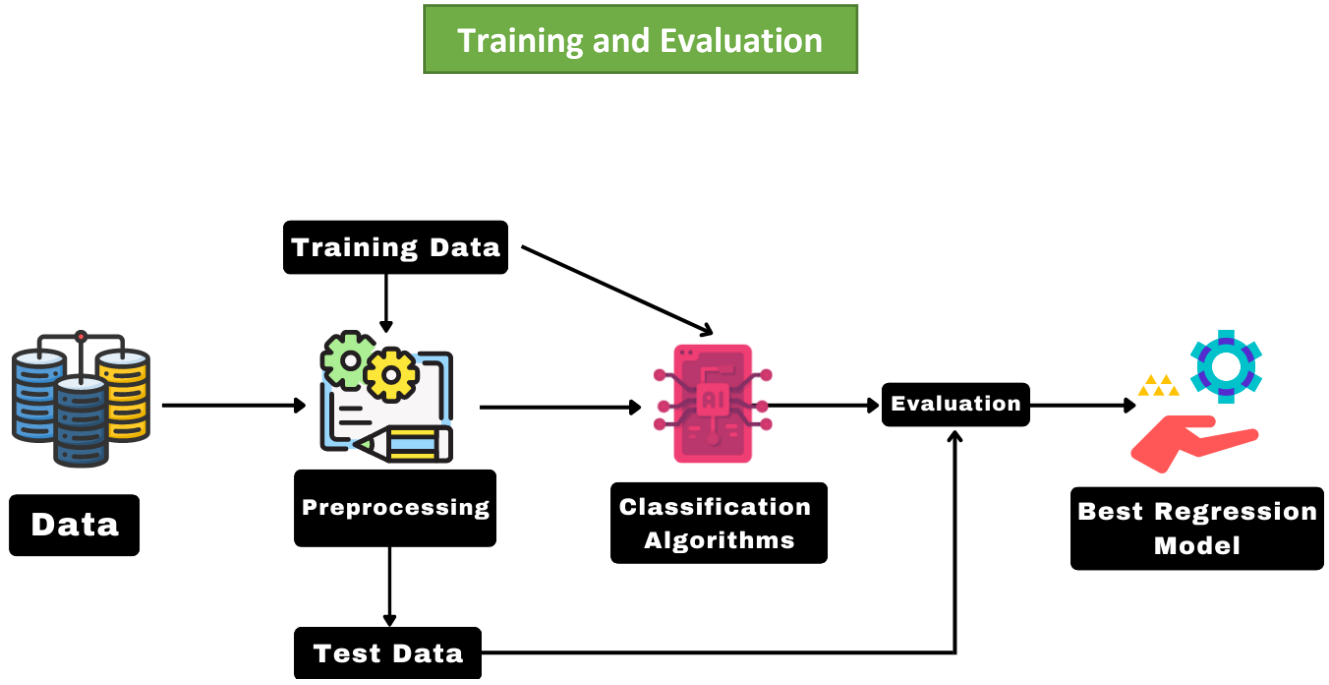
Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID52611
Project Name	Detecting Parkinson's disease using machine learning
Maximum Marks	4

Technical Architecture:



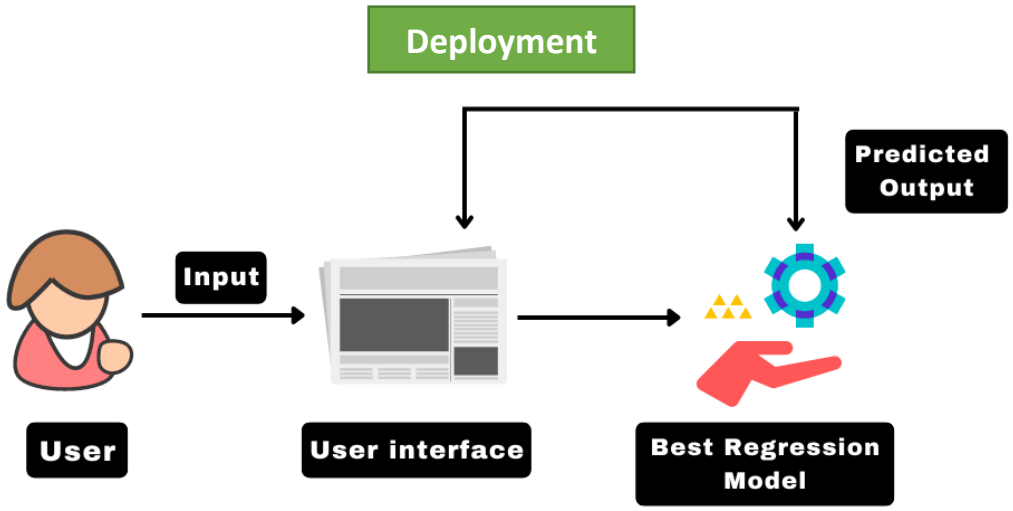


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Website designed for users to use the disease prediction system	HTML, CSS, JavaScript
2.	User registration	Users can register and receive confirmation for the process.	Python, HTML, CSS, Javascript
3.	Disease prediction	User enters the input to predict the disease	Machine learning
4.	Updating the results	Result of the disease prediction is displayed to user	Python, HTML, CSS, Javascript
5.	Database	Relational database to store user details	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2
7.	File Storage	File storage requirements	Local Filesystem
8.	External API-1	To allow the system to use google API features like google account login,translate	Gmail API, Google Translate.
9.	Machine LearningModel	To predict whether the user input has Parkinson disease	Random Forest, Decision Tree, SVM
10.	Infrastructure (Server / Cloud)	Application Deployment onCloud	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open source frameworks used to build web application and machine learning models.	Tensorflow, Flask, Sklearn, Keras, OpenCV etc.
2.	Scalable Architecture	3 tier architecture is usedwhich contains user interface, application tier, data tier.	IBM Watson Studio
3.	Availability	Web application is highly available and it is deployed in cloud.	IBM Cloud
4.	Performance	The website performance is improved with caching mechanisms and model withbest performance is selected for the system.	IBM Cloud InternetServices.