Project Design Phase-IProposed Solution

Date	24 September 2022
Team ID	PNT2022TMID23224
Project Name	Detecting Parkinson's Disease using Machine Learning
Team Leader	Dineshkumar P
Team Members	Dineshkumar P Kishore kumar R Krithik Deivarajan V Darshan Ajit K R
Faculty Mentor	Mr.S.Jegadeesan
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Parkinson's disease is caused by the disruption of brain cells that produce a substance to allow brain cells to communicate with each other called dopamine.It is a progressive disorder of the central nervous system affecting movement and inducing tremors and stiffness.The symptoms usually emerge slowly, and as the disease worsens, non-motor symptoms become more common. The most obvious early symptoms are tremor, rigidity, slowness of movement, and difficulty with walking.
2.	Idea / Solution description	The project aims at presenting a solution for Parkinson's disease detection using the Python libraries scikit-learn, numpy, pandas, and xgboost. We'll load the data, get the features and labels, scale the features, then split the dataset, build an XGBClassifier, and then calculate the accuracy of our model. The main idea behind the implementation is to classify a person as Healthy or having Parkinson's disease by building a model using XGBoost.
3.	Novelty / Uniqueness	The XGBoost algorithm used for detecting Parkinson's disease incorporates a sparsity-aware split finding algorithm to handle different types of sparsity patterns in the data. Out-of-core computing feature of the XGBoost algorithm optimizes the available disk space and maximizes its usage.

4.	Social Impact / Customer Satisfaction	Early diagnosis and treatment of PD are paramount to reducing the risk of disease progression, limiting the effects of PD on QoL, and potentially lowering long-term treatment costs.The proposed solution aims at predicting early Parkinson Disease in people using various factors.
5.	Business Model (Revenue Model)	Key partners: ● Distributors ● Academia ● Platforms Key activities: ● Development of solutions ● Data acquisition ● Platform operation ● Clinical Trials Key Resources: ● Data ● People Value Propositions: ● Uniqueness ● Performance ● Cost reduction Customer Segments: ● Clinics,Hospitals ● Software/platform developers
6.	Scalability of the Solution	XGBooster with different calculations the exactness, accuracy, review, and so forth is extremely excellent.XGBooster is not only able to keep up with all those other algorithms but exceeds them in performance.XGBoost can solve real-world scale problems using a minimal amount of resources.