Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID24864
Project Name	Project – Detection of Parkinson's disease
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	More than 10 million people are living with Parkinson's Disease worldwide, according to the Parkinson's Foundation. While Parkinson's cannot be cured, early detection along with proper medication can significantly improve symptoms and quality of life.
2.	Idea / Solution description	this project, We are using, Histogram of Oriented Gradients (HOG) image descriptor along with a Random Forest classifier to automatically detect Parkinson's disease in hand-drawn images of spirals and waves.
3.	Novelty / Uniqueness	HOG descriptors are powerful to detect images with occlusions, pose and illumination changes because they are extracted in a regular grid. For the regions of the image it generates histograms using the magnitude and orientations of the gradient. HOG can be used to detect small-scaled images with less computational power, which means you can run HOG without having a powerful GPU. Hence, the accuracy is highly reliable.
4.	Social Impact / Customer Satisfaction	Parkinson's disease is the 14th leading cause of death in the United States, according to the Center for Disease Control, and more people currently live with it than those with multiple sclerosis, muscular dystrophy, and ALS combined. Though we cant cure it,identifying it in soon can improve the lifespan.
5.	Business Model (Revenue Model)	Early detection along with proper medication can significantly improve symptoms and quality of life. Our model can be used by hospitals to detect in early stages, which can be profit for them.
6.	Scalability of the Solution	scalability in our project is achieved by combining Statistics, ML, and Data Mining into flexible, scalable, and often nonparametric techniques. the projection is done at image-level and therefore the computational cost is linear in the number of views, in our model every view is approximated at feature

		level as a linear combination of the pre-computed views. As a result, once the views have been computed, the cost of computing new views is almost negligible. This allows the model to be evaluated on many more viewpoints.