IDEATION – PARKINSON'S DISEASE DETECTION

Ideas (prioritized based on feasibility and importance):

1. **Why Parkinson's Disease Detection?**

Globally, disability and death due to PD are increasing faster than for any other neurological disorder. The number of patients with PD in India is estimated to be 7 million. The rise in PD prevalence estimates calls attention to the increasing individual and societal burden and the pressing need for measures to address and impact this challenging disease. Early in the disease it affects the voice and rigidity, slowness of movement, and difficulty with walking. Depression and anxiety and other symptoms include sensory, sleep, and emotional problems.

2. **Why Voice Dataset?**

Early symptoms of Parkinson's affect the voice of the patient that includes symptoms like weakening of voice, jitter, shimmering and shaking of voice while talking. Hence our project detects the disease using speech recordings as a dataset there by we can detect the disease as early as possible. This detects whether a person is affected by Parkinson's disease or not.

3. **Need for classification:**

A classification algorithm is the mostly preferred predictive algorithm for detecting disease. Classification is a function that weighs the input features (voice datasets) so that the output separates one class into positive values (1- PD positive) and the other into negative values (0- PD negative).

4. Why Support Vector Machine algorithm (SVM)?

There are many algorithms used for classification in machine learning but SVM is better than most of the other algorithms used as it has a better accuracy in result. Basically, SVM finds a hyper-plane that creates a boundary between the types of data. In SVM, we plot each data item in the dataset in an N-dimensional space, where N is the number of features/attributes in the data and finds the optimal hyperplane to separate the data.