

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**III B. TECH I SEMESTER**

**MACHINE LEARNING - PROJECT**

**TITLE :** **PARKISON’S DISEASE DETECTION**

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**1.PROBLEM STATEMENT :**

* It’s a application which offers you the Parkison’s Disease detection with more accuracy based on training data

**2.APPROACH:**

* **Algorithm** : K-Nearest Neighbor
* **Programming language :** Python
* **Tools and Libraries :** Jupyter Notebook,Pandas,Numy,Matplotlib
* **Dataset** : Parkinsson disease.csv

**3.ABSTRACT:**

Parkinson’s disease is a neurodegenerative disorder of centralnervous system that causes partial or full loss of motor reflexes,speech, behavior, mental processing, and other vital functions. It is generally observed in elderly people and causes disorders inspeech and motor abilities of 90% of the patients.People with Parkinson’s disease suffer from speech impairmentslike dysphonia (defective use of the voice), hypophonia (reducedvolume), monotone (reduced pitch range), and dysarthria(difficulty with articulation of sounds or syllables).In this project voice parameters of Parkinson’s disease patientsand healthy subjects will be analyzed to predict the presence ofParkinson’s disease

**4.ALGORITHM:**

**K-Nearest Neighbor:**

* K-Nearest Neighbour is one of the simplest Machine Learning algorithms based on Supervised Learning technique.
* K-NN algorithm assumes the similarity between the new case/data and available cases and put the new case into the category that is most similar to the available categories.
* K-NN algorithm stores all the available data and classifies a new data point based on the similarity. This means when new data appears then it can be easily classified into a well suite category by using K- NN algorithm.

**TOOLS AND LIBRARIES USED:**

* Jupyter Notebook:

Browser-based interactive programming environment jupyternotebook (formerly ipython notebooks) is a web-based interactive computational environment for creating jupiter notebook documents.

* Vs Code:

Visual studio code is a lightweight but powerful source code editor which runs on your desktop and is available for windows,macOS and linux. Itccomes with built-in support for JavaScript,TypeScript and Node.js and has a rich ecosystem of extensions for other languages andruntimes (such as C++,C#,JAVA,PYTHON,PHP,Go,NET).

* Scikit-learn:

Scikit-learn (Sklearn) is the most useful and robust library for machine learning in Python. It provides a selection of efficient tools for machine learning and statistical modeling including classification, regression, clustering and dimensionality reduction via a consistence interface in Python .

* Matplotlib:

Matplotlib is the primary scientific plotting library in Python. It provides functions for making publication -quality visualizations such as line charts, histograms, scatter plots, and so on.

* Pandas:

Pandas is a Python library for data wrangling and analysis. It is built around a data Structure called the Data Frame that is modeled after the R Data Frame. Simply put, a Pandas Data Frame is a table, similar to an Excel spread sheet and it allows SQL-like Queries and joins of tables

**5.MODEL:**

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**6.CONCLUSION :**

a Parkinson's disease detection project leveraging machine learning holds the potential to revolutionize early diagnosis and treatment of this neurodegenerative disorder. By harnessing advanced algorithms and data-driven approaches, such projects aim to provide accurate, timely, and cost-effective solutions, ultimately improving the lives of patients and enhancing our understanding of Parkinson's disease.

**7.OUTCOME:**

By doing this PBL-Project we are able to understand about KNN algorithm and prakinson diasease now are able to detect prakinson diasease using KNN algorithm

**8.REFERENCES :**

* Kaggle: Your Machine Learning and Data Science Community
* GeeksforGeeks | A computer science portal for geeks
* Stack Overflow - Where Developers Learn, Share, & Build Careers