**Prediction of Parkinson’s disease and severity of the disease using Machine Learning and Deep Learning algorithm**

Parkinson’s disease is a neurodegenerative disease which worsens over time. People have trouble vocally, writing, strolling, or completing other simple tasks when dopaminegenerating neurons in parts of the brain become impaired or expire. These symptoms worsen over time, increasing the severity of the condition in patients. We have suggested a methodology in this article for the prediction of Parkinson’s disease severity using deep neural networks on UCI’s Parkinson’s Telemonitoring Vocal Data Set of patients. We have created a neural network to predict the severity of the disease and a machine learning model to detect the disorder. Classification of Parkinson’s Disease is done by Neural network, Random Forest Classifier.

**EXISTING SYSTEM:**

The primary motor conditions are referred to as ”Parkinsonism,” or a ”Patient with Parkinson’s Disease.” One of the most common symptom that can be recognized by studying the patients’ voice data is changes in their voice. The patient’s speech stutters and becomes increasingly impacted as the disease progresses. Deep learning has risen in importance as a method for analysing unstructured data such as speech and audio signals. Multiple layers of neurons are often used in deep neural networks, these layers are stacked as a single unit for classification and feature selection models.

**DISADVANTAGES OF EXISTING SYSTEM:**

* A huge number of methodologies of available algorithms are not appropriate to aid professionals under the different area, highly depends on the employed statistics, therefore, struggle to maintain recitation with the variation of data properties.
* The majority of the algorithms intended to accomplish only a specific task hence does not fit for the real-time scenario where the cost is one of the primary factors

**PROPOSED SYSTEM:**

the proposed work, there are four different classification algorithms were selected along with the two feature compressing methods as CFS with best-first search and Gain ratio with ranker mechanism. As described in the literature survey each algorithm is designed with an obtainable process in an optimized form, such a selected process may not be utilized to build a more competent method. The proposed method investigate and analyze four chosen method such as Hidden Markov Model (HMM), Artificial Neural Network (ANN), Support Vector Machine (SVM) and Decision Tree (J48) along with two other feature compressing methods. [2, 17] After analyzing these feature compressing methods, combine them with the linear models. And if any data is mismatched then reexamine with the other employed technique to improve the QoS.

**ADVANTAGES OF PROPOSED SYSTEM:**

* The comparative values show that the proposed method obtains higher accuracy when compared with other existing methods.
* The efficiency and suitability of the proposed approach are compared with other suggested methods.

**Algorithm**: Machine learning, Classification Technique, Naïve Bayes, neural networks, supervised machine learning.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

**System : Intel i5 6 core.**

**Hard Disk : 500 GB SSD.**

**Monitor : 15’’ LED**

**Input Devices : Keyboard, Mouse**

**Ram : 32 GB.**

**SOFTWARE REQUIREMENTS:**

**Operating system : Windows 10.**

**Coding Language : Python**

**Tool : PyCharm, Visual Studio Code**

**Database : SQLite**