**TITLE**:

**PREVISION OF PARKINSON’S DISEASE USING ARTIFICIAL INTELLIGENCE**

**ABSTRACT:**

Parkinson's Disease (PD) is a neurodegenerative disorder affecting millions worldwide. It is characterized by a progressive decline in motor functions, such as tremors, rigidity, bradykinesia (slowness of movement), and postural instability. Early detection and accurate diagnosis of Parkinson's Disease are crucial for effective management and timely intervention. In recent years, machine learning (ML) techniques have shown great promise in various areas of healthcare, including disease diagnosis and prediction. ML algorithms have the potential to analyze large volumes of data and identify patterns that may not be apparent to human observers. This ability makes them valuable tools for developing predictive models that can aid in the early detection and prognosis of Parkinson's Disease. The primary objective of this project is to explore the application of machine learning algorithms for predicting the onset or progression of Parkinson's Disease. By leveraging the power of ML, we aim to develop a robust predictive model that can accurately identify individuals at risk of developing Parkinson's Disease or track the progression of the disease in diagnosed patients.

**OBJECTIVE**

Parkinson's disease is a neurodegenerative disorder that affects millions of people worldwide. Early diagnosis and accurate prediction of Parkinson's disease can significantly improve patient outcomes by enabling timely intervention and personalized treatment plans. Machine learning algorithms have shown promise in predicting the onset and progression of Parkinson's disease, providing an opportunity for early detection and intervention.

Motivations for using machine learning in Parkinson's disease prediction include:

1. Early Detection

2. Personalized Treatment

3. Cost-Effective and Non-Invasive

4. Research and Drug Development

5. Biomarker Discovery

**Problem Statement**

The goal of this project is to develop a machine-learning model that can accurately predict the likelihood of developing Parkinson's disease based on patient data. By utilizing various features such as demographic information, medical history, genetic markers, and clinical assessments, the model should be able to provide early detection and risk assessment for individuals susceptible to Parkinson's disease.

**Objective**

This project aims to develop a machine-learning model that can accurately predict the likelihood of developing Parkinson's disease based on patient data. The model aims to provide early detection and risk assessment for individuals

susceptible to Parkinson's disease, enabling timely intervention and personalized treatment plans.

## LITERATURE SURVEY

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| **Sl.**  **No.** | **Title** | **Technique** | **Result** |
| 1 | Prediction of Parkinson's Disease Using Machine Learning | Support Vector Machines, Random Forest, Decision Trees, Logistic Regression | Achieved high accuracy in predicting Parkinson's disease based on selected features |
| 2 | Deep Learning-Based Parkinson's Disease Diagnosis | Convolutional Neural Networks, Recurrent Neural Networks, Long Short-Term Memory | Outperformed traditional machine learning methods in Parkinson's disease diagnosis |
| 3 | Ensemble Learning Approaches for Parkinson's Disease Detection | AdaBoost, Bagging, Random Forest, Gradient Boosting | Improved accuracy and robustness in detecting Parkinson's disease |
| 4 | Early Detection of Parkinson's Disease Using Speech Analysis | Genetic Algorithms, Feature Selection, Support Vector Machines | Identified relevant features and achieved high accuracy in Parkinson's disease |
| 5 | Predicting Parkinson's Disease Progression Using Longitudinal Data | Longitudinal Data Analysis, Mixed-Effects Models, Random Forest | Predicted disease progression and identified important risk factors for Parkinson's disease |

**Existing System:**

* Hospital Databases: Most existing systems rely on data from hospital databases to make predictions.
* Doctor Assessments: Doctors use their clinical expertise and assessments to provide a Parkinson's Disease diagnosis.
* Brain Imaging: Brain imaging technologies, such as magnetic resonance imaging (MRI), can aid in diagnosing Parkinson's Disease.

