**Machine Learning – Research Project**

**Team name:** ML Legends

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**Project Title:** Prediction of Parkinson’s Disease using ML.

**Keywords Included:** ML, Parkinson’s disease , Neuro science,XGBoost for medical diagnosis.

**Introduction**

Parkinson’s disease (PD) is a neurodegenerative disorder that affects movement, often leading to tremors, rigidity, and bradykinesia. Early diagnosis is crucial for managing and slowing the progression of the disease. However, detecting Parkinson's in its early stages can be challenging due to subtle symptoms that overlap with other conditions. Recent advances in machine learning have shown promise in aiding the diagnosis of PD by analyzing voice data and other biomarkers.

Our project focuses on utilizing machine learning techniques to improve the early detection of Parkinson's disease. By employing the XGBoost algorithm, we aim to classify patients based on vocal features and other biomarkers. Parkinson's disease can be difficult to diagnose in its early stages due to the overlap of symptoms with other conditions, making automated methods for detection invaluable. Through this study, we will explore existing methods for data preprocessing and model training while identifying challenges related to accuracy and clinical applicability. Our goal is to create a reliable model that can aid in the early diagnosis of Parkinson's disease, ultimately improving patient care and treatment outcomes.

**Research Sources:** IEEE , ACM, Google & You-tube.