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# Parkinson's Disease Detection

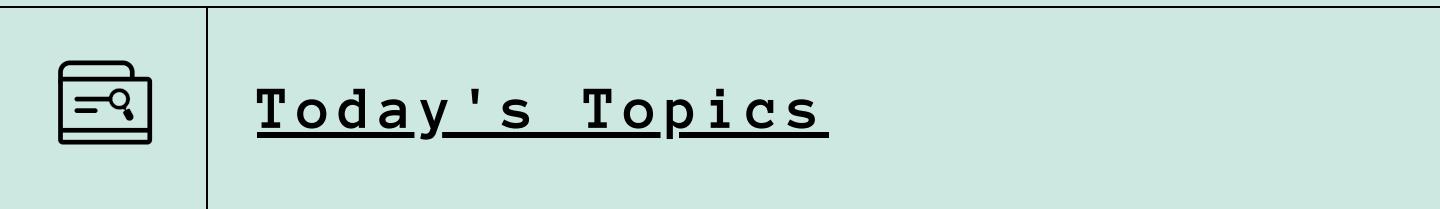
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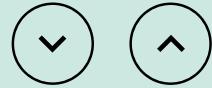
# Presentation Outline



- Introduction >
- Literature Survey >
- Technology Stack >
- Architecture >
- Methodology >
- References >



# Problem Statement



Prediction of Parkinson's Disease with  
the help of voice Dataset



N E X T

# Abstract

We are predicting Parkinson's Disease with the help of voice Dataset which helps to treat the people in early stages.

~~Parkinson's disease is a neurological disorder that leads to shaking and difficulty in walking, balance, and coordination. In worst cases~~

~~Besides motor symptoms, the person may see, hear, or experience things that are not real (hallucinations), or believe things that are not true (delusions).~~

Parkinson's disease patients typically have a low-volume voice with a monotone quality.

The voice dataset have the features like MDVP:Fo(Hz) - Average vocal fundamental frequency, MDVP:Fhi(Hz)

. First we balanced the data cause it is imbalance and then train and test different model like Random Forest, Catboost, XGboost and tuned the hyperparameter with the help of GridSearchCV.

NEXT

# INTRODUCTION

- The project based on health care and biomedical devices.
- It is a real-time outbreak monitoring machine learning application developed to predict Parkinson's disease with the help of voice Dataset which helps to treat the people in early stages.
- It helps in Prediction of Parkinson's Disease with the help of voice Dataset which helps to treat the people in early stages by using Machine learning algorithms like SVM, Xgboost, Random Forest



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# LITERATURE SURVEY

<https://www.ninds.nih.gov/Disorders/All-Disorders/Parkinsons-Disease-Information-Page>

<https://www.nature.com/articles/s41531-020-00127-w#auth-Chang-Su>



NEXT

# TECHNOLOGY STACK

01



- Interpreted
- Object-oriented
- High-level
- Dynamic semantics.



02



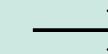
- Gradient boosting library.
- Implements machine learning algorithms
- Solves problems in a fast and simple way



03



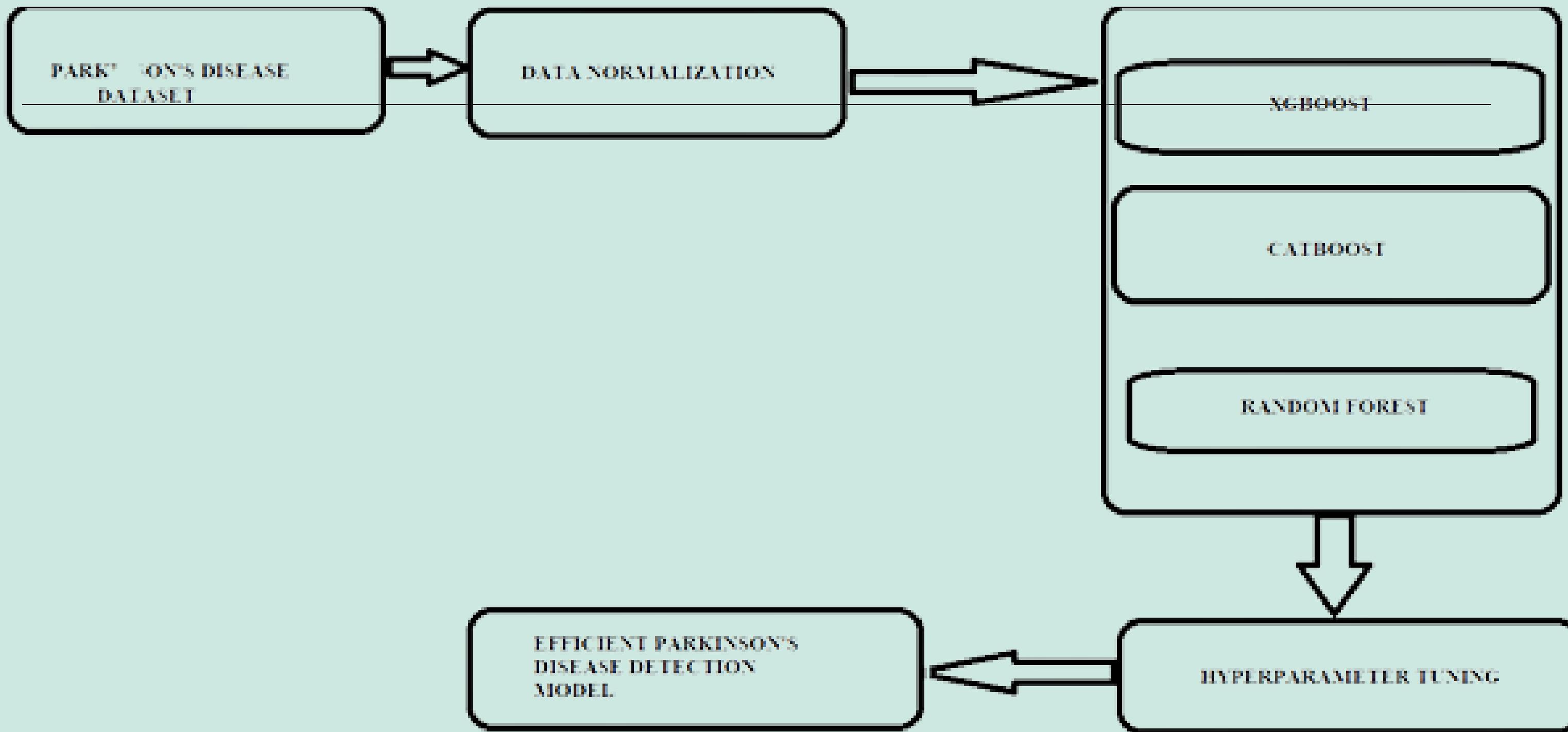
- Open sourced machine learning algorithm
- Reduce time spent on parameter tuning.
- helps to improve your training results



NEXT



# ARCHITECTURE



NEXT



# METHODOLOGY



## PHASE 1

Brainstorming project requirements

2 WEEKS

## PHASE 2

Pre-processing of the data

1 WEEK

## PHASE 3

Feature Extraction, & Feature Selection

2 WEEKS

## PHASE 4

Classification using different ML Models and Result Visualization

3 WEEKS

## PHASE 5

Experimental Evaluation

2 WEEKS



# REFERENCES

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- <http://parkinson.org/understanding-parkinsons>
- <https://www.ninds.nih.gov/Disorders/All-Disorders/Parkinsons-Disease-Information-Page>
- Chang Su, Jie Tong & Fei Wang , Mining genetic and transcriptomic data using machine learning approaches in Parkinson's disease. *npj Parkinson's Disease* volume 6, Article number: 24 (2020)
- <https://www.healthline.com/health/parkinsons>
- Jie Mei1, Christian Desrosiers and Johannes Frasnelli, Machine Learning for the Diagnosis of Parkinson's disease: A Review of Literature. *Aging Neurosci*, 06 May 2021