**Literature Survey**

**Parkinson’s Disease**

1. **Early detection of Parkinson’s disease using machine learning**

**Dataset:** MDVP Dataset

**Type of Data:** Audio

**Model Used:** Random Forect, SVM, Logistic Regression

**Accuracy:** 91.83%

**Year Published:** 2023

**Paper:** [link](https://pdf.sciencedirectassets.com/280203/1-s2.0-S1877050923X00027/1-s2.0-S1877050923000078/main.pdf?X-Amz-Security-Token=IQoJb3JpZ2luX2VjEFsaCXVzLWVhc3QtMSJHMEUCIQD5XvwBAVK8NHp%2B7fkPVw0Cn%2FL%2BNJvacFfpwArQ8JD6iAIgNzx20y2KcU9bCLqvP37x3CQjw0zWHE1FEHeDvsvEqkQquwUI5P%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FARAFGgwwNTkwMDM1NDY4NjUiDGjb7kRCzBfMs2i8JyqPBRZ1vtGPqFZ7%2FyZuRdUu7%2B7z51Us2JwgG%2Bxr3bsYmr%2FTdcnpz%2BPzoEfuGPFVLvdRnoweQcJxh5pBBYJRLvRrq%2BO8G47bAcTex5UU9g5OeBwA1MeKJqTYtsG%2FqGUHgGsdlHoo7zn2aP2c2yNAW60%2FSUE%2Bsz2udV0odMB7mEtRBGttsy3Xo4uNTyDy%2FhX4Z2zt%2FIWzxv6ORTlR44xFrTEFBdcRCpPVJVKJs4TAbCsmif8KAJ5ZEu0XkN6ADomfNw5nS3TXLDXr61jUSrULasEZHQla8ankCmHUm8r36tuRYcPrKF4nM9LQUma29ax9JuL242EAY%2F4M6B7VmBIoeTpzpdyIlduAWsgUuXPdKyyvnwelvI8PAk5cA3bNVaaVHEO2iYlMrVop%2FgyoYr%2FfpuT6I9Uues34dXAZuqHUl0BH61RhrcTkkM%2BFMw2J%2Fa3E5ME9RLMBcs1gOMYoI28DdwRS3AyJQUpwIv%2Bclxx6qYFQs5up6ciQ06Om8ILNNPhSLYmnblwa63e5MUa0aim6uTJsvP0klX4KMZEdUYXPDYvo%2Fa7j9XdCcbDj65Hbl1JsfDQtd5q5vi2U30cs7SBHyEjimiRJ86BkeYKVzbHVQouMqI5Ku8OZBJFkH8HQL0Tk8i5UryNQVbT92wSDle%2F3xb3wuhmj5sUrIABWhPR3glE4GTnb25gSAAr72U%2FVKj61nX7rgsfpBiWdo0Y2bq%2B2wEGx052TdLS8offDjGxIQEntjSotuiFbF7ymDXawru%2F958gkb6Mx9rsdQPNr5kcKPR15dMoOKXknW%2FoEhHu8ebFZ1bEfSdIawZ5HxEO%2FPO%2BA2Dwi6btskKsIMP9T3cBvHd4vQtkeVKlQRyJ8gzf8X58Ftqcw2qqhwAY6sQEAwlbn9%2F%2Br93kzBZggsQI9o0z5BUiZk%2Bx9k26WbX%2FxO0SXnOtbjjsa698cmGX%2BJxebxyDAKsgUNfO1vg9zX0hnn2mMfiivLbVcNk1bobfllIfltKjSABooWUId2ym6et0%2FniUh5QwilPjCC1Pu9DqzDHJGWnqSyNANB42qNHEynDg%2F8%2FeCDr4HRN0dFkRdcnthXbZFkOipQ%2BLIBh%2Fbi2qdBeXNCrbfmY46eib3g6jJcrw%3D&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20250423T031343Z&X-Amz-SignedHeaders=host&X-Amz-Expires=299&X-Amz-Credential=ASIAQ3PHCVTY5MYTP5J2%2F20250423%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Signature=62e3898a1da0f76053574f201db72b8a587251e6094da5608332fd9d7cec84c5&hash=0fca44ac9600c9c1c2c2d4108cccdec3e51b0ba385ea95704b58397b63837293&host=68042c943591013ac2b2430a89b270f6af2c76d8dfd086a07176afe7c76c2c61&pii=S1877050923000078&tid=spdf-4401f427-280b-4aad-8a71-406614a852dd&sid=235ad59454e7c045501ab0b9f60a63e83c54gxrqb&type=client&tsoh=d3d3LnNjaWVuY2VkaXJlY3QuY29t&rh=d3d3LnNjaWVuY2VkaXJlY3QuY29t&ua=130859575502550401015e&rr=934a2fbf9ec379f5&cc=in)

1. **Detection of Parkinson disease using multiclass machine learning approach**

**Dataset:** Own dataset (University of California at Irvine (UCI))

**Type of Data:** Audio

**Model Used:** KNN, FNN (Feed-Forward Neural Network)

**Optimizer:** SMOTE

**Accuracy:** 99.96%

**Year Published:** 2024

**Paper:** [link](https://www.nature.com/articles/s41598-024-64004-9)

1. **Parkinson’s Disease Detection by Using Machine Learning Method based on Local Classification on Class Boundary**

**Dataset:** Parkinson’s Disease Classification dataset, Consturycted Parkinson’s disease dataset

**Type of Data:** Audio

**Model Used:** LCCB, HKNN

**Accuracy:** 95.2%, 94.7%

**Year Published:** 2024

**Paper:** [link](https://link.springer.com/article/10.1007/s42452-024-06295-1)

1. **Parkinson's Disease Detection Using Machine Learning**

**Dataset:** UCI Dataset

**Type of Data:** Audio

**Model Used:** XGBoost, MCC

**Accuracy:** 96%, 89%

**Year Published:** 2022

**Paper:** [link](https://ieeexplore.ieee.org/document/9768002)

1. **Parkinson’s image detection and classification based on deep learning**

**Dataset:** Parkinson’s MRI dataset

**Type of Data:** Image

**Model Used:** YOLOv5

**Accuracy:** 97%

**Year Published:** 2024

**Paper:** [link](https://bmcmedimaging.biomedcentral.com/articles/10.1186/s12880-024-01364-8)

1. **Parkinson’s Disease Prediction Using Convolutional Neural Networks and Hand-Drawn Image Analysis**

**Dataset:** Distinguishing Different Stages of Parkinson’s Disease Using Composite Index of Speed and Pen Pressure of Sketching a Spiral (Kaggle)

**Type of Data:** Image

**Model Used:** CNN, KNN

**Accuracy:** 97%(highest)

**Year Published:** 2024

**Paper:** [link](https://www.researchgate.net/publication/384597390_Parkinson's_Disease_Prediction_Using_Convolutional_Neural_Networks_and_Hand-Drawn_Image_Analysis)

1. **Early Detection of Parkinson’s Disease Using AI Techniques and Image Analysis**

**Dataset:** Zham et Al, University of California, Irvine’s Parkinson’s disease spiral drawings, PaHaW

**Type of Data:** Image

**Model Used:** Rf, DenseNet, KNN, CNN, Logistic Regression, SVM, Naïve Bayes

**Accuracy:** This is a comparative study of all models and all datasets

**Year Published:** 2024

**Paper:** [link](https://pmc.ncbi.nlm.nih.gov/articles/PMC11640201/)

1. **Parkinson's disease: Improved diagnosis using image processing**

**Dataset:** PPMI Database

**Type of Data:** Image

**Model Used:** Computer Aided Diagnosis

**Year Published:** 2017

**Paper:** [link](https://www.researchgate.net/publication/321236423_Parkinson's_disease_Improved_diagnosis_using_image_processing)

**10.** **Prediction of Parkinson’s Disease using Handwriting Analysis and Voice Dataset**

**Dataset:** UCI Machine Learning Repository’s Parkinson’s Telemonitoring Voice Data Set, PPMI dataset, PD Dataset

**Type of Data:** Image, Audio

**Model Used:** Various Models

**Accuracy:** Comparative study of various models and several accuracies

**Year Published:** 2024 (BNM College, Bengaluru)

**Paper:** [link](https://irojournals.com/iroiip/article/pdf/6/2/4)