

DETECTION OF PARKINSON'S DISEASE USING MACHINE LEARNING

PROJECT DESCRIPTION:

Detection of Parkinson's disease using the drawings made by the subjects instead of measuring the speed and pressure of the pen on paper to classify the healthy and affected person. Our goal is to quantify the visual appearance of these drawings and then train a machine learning model to classify them.

S.NO	TITLE	AUTHOR AND YEAR OF PUBLICATIONS	METHODOLOGY USED	LIMITATIONS
1.	Classification of handwritten drawings of people with Parkinson's disease by using histograms of oriented gradients and the random forest classifier	João Paulo Folador et al, 2 October 2019	The methods used are Random Forest Classifier and Histogram of Gradients (HOG) for achieving the accuracy of the model.	Training the model with more number of data sets rather than the existing ones (51) must be used for more specificity and accuracy.
2.	Early Detection of Parkinson's Disease using Contrast Enhancement Techniques and CNN	Ishan Vatsaraj et al, 5 May 2021	Augmentation methods like rotation, vertical and horizontal flipping along with Support vector machines and HOG methods are applied.	This model does not provide the probability of the percentage that is affected in a person by the Parkinson's disease.
3.	Detection of Parkinson's disease using machine learning algorithm.	Shikha Singh et al, 22 April 2022	In this paper, they have used the machine learning ensemble method XGBoost which gives accurate results.	The research can be expanded by utilizing additional models and comparing the results to establish the most optimized and efficient models for disease detection and determining the degree of disease in the patient.

PROBLEM STATEMENT:

To develop a machine learning model which uses predict_log_proba function by random forest classifier to accurately find out the percentage affected in the subject and to use Histogram of Gradients descriptor to automatically predict Parkinson's disease.