LITERATURE SURVEY

S.NO	AUTHOR & YEAR	TITLE	DESCRIPTION	ADVANTAGE	DISADVANTAGE
1.	Deepa Shenoy, Vibhudendra simha. G. G, P L Rrashmi, K.R. Venugopal, Sandhya Joshi, L.M Patnaik. (2010)	Classification of Alzheimer's Disease and Parkinson's Disease by Using Machine Learning and Neural Network Methods.	The objective of this paper was to classify the Alzheimer's disease and Parkinson's disease based on the most influencing risk factors using different classifier techniques.	The classification model was validated with the test cases and the model achieved a high classification accuracy of 99.25% with Random Forest tree and the Multilayer Perceptron.	The classification accuracy varies greatly with the change in the identification of the important risk factor with another and hence the model needs to be trained again.
2.	Liaqat Ali, Ce Zhu, Zhonghao Zhang, Yipeng Liu. (2019)	Automated Detection of Parkinson's Disease Based on Multiple Types of Sustained Phonation's Using Linear Discriminant Analysis and Genetically Optimized Neural Network.	Developed a hybrid intelligent system for PD detection based on multiple types of sustained phonation's data. The developed system uses LDA model for dimensionality reduction and neural network model for classification. The architecture of the neural network model was optimized using genetic algorithm. Experimental results showed that the developed intelligent system could discriminate between PD patients and healthy subjects with an accuracy of 95% on training database and 100% on testing database using all the collected features of the dataset. However, the limitation of gender imbalance in the dataset was highlighted and hence the gender dependent features were eliminated, and the proposed system was again simulated. Consequently, we obtained 80% accuracy on training database and 82.14% on testing database.	The proposed LDA-NN-GA method shows better performance and lower complexity.	The first limitation is in the independent dataset (testing dataset) which was only collected from PD patients and is highly imbalanced *i.e*., the healthy class has no representation in the testing database. Additionally, no information about UPDRS is provided for the subjects of the testing database. The second limitation is missing information about the feature extraction process *e.g*., was the extraction of features corrected for pitch halving/doubling? Third, information about speech severity and whether the PD patients were investigated in the OFF or ON state, are also missing.
3.	Saurabhchand Bhati, Laureano Moro Velazquez, Jesus villalba. (2019)	LSTM Siamese Network for Parkinson's Disease Detection from Speech.	They proposed a two-step strategy to use machine learning methods for PD detection. In the first step, we use Long Short-Term Memory (LSTM)-based Siamese networks to learn feature representations that highlight the information related to speech articulation and prosody relevant for PD detection. Siamese networks are trained on data pairs employing a Spanish corpus containing 52 patients and 56	They achieved an EER of 1.9% in the detection by combining the scores of different text-dependent models. Preliminary experiments show the efficacy of the proposed method	Long short-term memory (LSTM) Siamese networks are used for dysarthric speech detection. Networks with Siamese architectures are trained on pairs of input data with the

			control subjects. In the second step, we train a classifier to make decisions about the presence or absence of PD employing the features provided by the LSTM networks.	and prove the usefulness of LSTM for PD detection from speech.	same phonetic content.
4.	Ishan Vatsaraj, Dr. Gajanan Nagare. (2021)	Early Detection of Parkinson's Disease using Contrast Enhancement Techniques and CNN.	Augmentation methods like rotation, vertical and horizontal flipping along with Support vector machines and HOG methods are applied. The significant improvement in the accuracy can be attributed to the optimal contrast enhancement technique used and that two different CNN models were used for predicting the spiral and wave patterns respectively.	The proposed model showed an accuracy of 96.67% with a precision of 93.33% and recall of 100%.	This model does not provide the probability of the percentage that is affected in a person by the Parkinson's disease.