A. Ouhmida, O. Terrada, A. Raihani, B. Cherradi and S. Hamida, "Voice-Based Deep Learning Medical Diagnosis System for Parkinson's Disease Prediction," 2021 International Congress of Advanced Technology and Engineering (ICOTEN), Taiz, Yemen, 2021, pp. 1-5, doi: 10.1109/ICOTEN52080.2021.9493456.

Ouhmida et al. have employed two deep learning models, namely Convolutional Neural Network (CNN) and Artificial Neural Network (ANN), for the purpose of classifying healthy individuals and those afflicted with Parkinson’s Disease based on vocal features. The researchers have given preference to utilizing two datasets sourced from the UCI Machine Learning Repository to underpin their investigative efforts. Notably, the CNN model has demonstrated significant efficacy, yielding an accuracy rate of 93.1% in the classification of patients.

P. Mounika and S. G. Rao, "Machine Learning and Deep Learning Models for Diagnosis of Parkinson’s Disease: A Performance Analysis," 2021 Fifth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Palladam, India, 2021, pp. 381-388, doi: 10.1109/I-SMAC52330.2021.9640632.

Mounika et al. investigates the early diagnosis of Parkinson's Disease using Deep Learning and Machine Learning on a substantial UCI dataset. Employing various performance metrics, the K-Nearest Neighbors (KNN) algorithm with k=5 stands out with an impressive 97.43% accuracy, showcasing its potential as a robust approach for early PD detection.

N. Jahan, A. Nesa and M. A. Layek, "Parkinson's Disease Detection Using CNN Architectures withTransfer Learning," 2021 International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES), Chennai, India, 2021, pp. 1-5, doi: 10.1109/ICSES52305.2021.9633872.

Jahan et al. addresses the escalating challenge of Parkinson's Disease (PD) by proposing a novel diagnostic system using fine motor symptom-based sketch analysis. Employing Convolutional Neural Network (CNN) models, specifically Inception-v3 and ResNet50 with transfer learning, their system had achieved a commendable 96.67% accuracy in distinguishing PD patients from a Healthy control group based on spiral sketching.

S. R. Burri, D. K. Agarwal, N. Vyas and R. Duggar, "A Machine Learning Framework for Accurate Prediction of Parkinson's Disease from Speech Data," 2023 3rd International Conference on Innovative Sustainable Computational Technologies (CISCT), Dehradun, India, 2023, pp. 1-6, doi: 10.1109/CISCT57197.2023.10351422.

Burri et al. proposed a DBN-based solution, which exhibits superior performance, surpassing competitors with a remarkable 92% success rate in Parkinson's disease diagnosis. The evaluation, incorporated F1 score, sensitivity, specificity, and accuracy measures, underscores the consistency of the achieved results. This study underscores the potential of language-trained Machine Learning (ML) models in Parkinson's disease diagnosis, offering significant implications for both research and treatment in the field.

M. Ogawa and Y. Yang, "Residual-Network -Based Deep Learning for Parkinson's Disease Classification using Vocal Datasets," 2021 IEEE 3rd Global Conference on Life Sciences and Technologies (LifeTech), Nara, Japan, 2021, pp. 275-277, doi: 10.1109/LifeTech52111.2021.9391925.

Ogawa and Yang presented a non-invasive approach for Parkinson's disease diagnosis and early detection, focusing on abnormal motor signs. A 10-layered 1-dimensional Convolutional Neural Network (CNN) and a novel-residual-network-type 1-dimensional CNN have been introduced for classifying Parkinson's disease using vocal feature datasets. The proposed residual network yields favourable classification results, achieving an accuracy of 0.888, F-measure of 0.928, and Matthews Correlation Coefficient (MCC) of 0.692. These findings highlight the efficacy of the introduced models in the context of Parkinson's disease classification based on vocal features.

S. S, A. S, G. V. V. Rao, P. V, K. Mohanraj and R. Azhagumurugan, "Parkinson's Disease Prediction Using Machine Learning Algorithm," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-5, doi: 10.1109/ICPECTS56089.2022.10047447.

Sandhiya et al. utilized spiral/wave drawing datasets from 102 individuals (51 healthy an 51 with Parkinson's disease) employing Histogram of Oriented Gradients (HOG) for feature extraction. Classification is accomplished through the Random Forest Classifier in the Scikit-learn package, alongside OpenCV and NumPy for statistical data generation. Emphasizing the expanding applications of image processing, particularly in Parkinson's disease detection, classification, and diagnosis, Random Forest Classifier achieved a classification accuracy of 71.33%, sensitivity of 69.33%, and specificity of 73.3%. This analysis streamlines pattern classification involving Parkinson's disease and healthy individuals, offering time-saving benefits and enhanced productivity.

J. Naanoue, R. Ayoub, F. E. Sayyadi, L. Hamawy, A. Hage-Diab and F. Sbeity, "Parkinson's disease detection from speech analysis using deep learning," 2023 Seventh International Conference on Advances in Biomedical Engineering (ICABME), Beirut, Lebanon, 2023, pp. 102-105, doi: 10.1109/ICABME59496.2023.10293142.

A deep learning approach for early Parkinson's disease detection is introduced in this paper, employing a long short-term memory (LSTM) model with features extracted from speech signals. Promising results are achieved by the LSTM model, with a testing accuracy of 93%, utilizing a dataset that includes features from 188 Parkinson's patients and 64 healthy individuals. The emphasis on speech signal features highlights the potential of this methodology for early Parkinson's disease diagnosis and intervention, with contributions to the enhanced quality of life for affected individuals.