Abstract

Parkinson’s disease (PD) and Alzheimer’s diseases are the most common brain diseases. Parkinson’s disease (PD) occurs when the neurons that produce dopamine in the brain are damaged. People aged 50 or above mostly suffer from Parkinson’s disease. PD and Alzheimer’s disease can be diagnosed by many different signals such as EEG and Speech signals. This paper proposes a method for detecting PD and Alzheimer’s disease where, discrete wavelet transform feature extraction technique were used and SVM network is used for classification. The accuracy of 91.6% is obtained.

References

2. Marius Ene,” Neural network-based approach to discriminate healthy people from those

3. Patrizio Campisi, Senior Member, IEEE, and Daria La Rocca, Student Member, IEEE,” Brain Waves for Automatic Biometric-Based User Recognition”, IEEE transactions on information forensics and security, vol. 9, no. 5, may 2014.


5. A.M. Ardi Handojoseno, James M. Shine, Tuan N. Nguyen, Member, IEEE, Yvonne Tran, Simon J.G. Lewis, Hung T. Nguyen, Senior Member, IEEE,” The detection of Freezing of Gait in Parkinson’s disease patients using EEG signals based on Wavelet Decomposition”,34thAnnual International Conference of the IEEE EMBS San Diego, California USA, 28 August - 1 September, 2012


10. Mohammad Shahbakht, Danial Taherifar, Zahra Zareei,” Combination Of PCA And SVM For Diagnosis Of Parkinson's Disease”, 2nd International Conference on Advances in Biomedical Engineering,2013.


22. Hafeez Ullah Amin and Aamir Saeed Malik and Rana Fayyaz Ahmad." Feature extraction and classification for EEG signals using wavelet transform and machine learning techniques", Australasian College of Physical Scientists and Engineers in Medicine, SPRINGER, 2015.

Index Terms
Computer Science Signal Processing

Keywords
Parkinson’s disease, Alzheimer disease, EEG signals, speech, SVM