

REFERENCES

- [1] B. S. Chang and D. H. Lowenstein, "Epilepsy," *N. Engl. J. Med.*, vol. 349, no. 13, pp. 1257–1266, Sep. 2003.
- [2] S. Khan, A. Khan, N. Hameed, M. A. Taufiq, and S. Riaz, "Localizing Epileptogenic Zone from High Density EEG Data Using Machine Learning," *Int. J. Online Biomed. Eng.*, vol. 17, no. 06, p. 73, Jun. 2021.
- [3] D. Liu, Z. Pang, and Z. Wang, "Epileptic Seizure Prediction by a System of Particle Filter Associated with a Neural Network," *EURASIP J. Adv. Signal Process. 2009 20091*, vol. 2009, no. 1, pp. 1–10, Jun. 2009.
- [4] K. Rasheed *et al.*, "Machine learning for predicting epileptic seizures using EEG signals: A review," *arXiv*, vol. 14, pp. 139–155, 2020.
- [5] E. Alickovic, J. Kevric, and A. Subasi, "Performance evaluation of empirical mode decomposition, discrete wavelet transform, and wavelet packed decomposition for automated epileptic seizure detection and prediction," *Biomed. Signal Process. Control*, vol. 39, pp. 94–102, Jan. 2018.
- [6] A. Humairani, B. S. Atmojo, I. Wijayanto, and S. Hadiyoso, "Fractal Based Feature Extraction Method for Epileptic Seizure Detection in Long-Term EEG Recording," *J. Phys. Conf. Ser.*, vol. 1844, no. 1, p. 012019, Mar. 2021.
- [7] E. Bou Assi, D. K. Nguyen, S. Rihana, and M. Sawan, "Towards accurate prediction of epileptic seizures: A review," *Biomed. Signal Process. Control*, vol. 34, pp. 144–157, 2017.
- [8] K. Gadhomi, J. M. Lina, F. Mormann, and J. Gotman, "Seizure prediction for therapeutic devices: A review," *J. Neurosci. Methods*, vol. 260, no. 029, pp. 270–282, 2016.
- [9] S. Siuly *et al.*, "A New Framework for Automatic Detection of Patients with Mild Cognitive Impairment Using Resting-State EEG Signals," *IEEE Trans. Neural Syst. Rehabil. Eng.*, vol. 28, no. 9, pp. 1966–1976, 2020.
- [10] A. R. Ozcan and S. Erturk, "Seizure Prediction in Scalp EEG Using 3D

- Convolutional Neural Networks With an Image-Based Approach,” *IEEE Trans. Neural Syst. Rehabil. Eng.*, vol. 27, no. 11, pp. 2284–2293, Nov. 2019.
- [11] S. Li, W. Zhou, Q. Yuan, and Y. Liu, “Seizure Prediction Using Spike Rate of Intracranial EEG,” *IEEE Trans. Neural Syst. Rehabil. Eng.*, vol. 21, no. 6, pp. 880–886, Nov. 2013.
- [12] Cheng-Yi Chiang, Nai-Fu Chang, Tung-Chien Chen, Hong-Hui Chen, and Liang-Gee Chen, “Seizure prediction based on classification of EEG synchronization patterns with on-line retraining and post-processing scheme,” in *2011 Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 2011, pp. 7564–7569.
- [13] A. T. Tzallas, M. G. Tsipouras, and D. I. Fotiadis, “Epileptic Seizure Detection in EEGs Using Time-Frequency Analysis,” *IEEE Trans. Inf. Technol. Biomed.*, vol. 13, no. 5, pp. 703–710, Sep. 2009.
- [14] H. Niknazar, K. Maghooli, and A. Motie Nasrabadi, “Epileptic Seizure Prediction using Statistical Behavior of Local Extrema and Fuzzy Logic System,” *Int. J. Comput. Appl.*, vol. 113, no. 2, pp. 24–30, Mar. 2015.
- [15] M. J. Katz, “Fractals and the analysis of waveforms,” *Comput. Biol. Med.*, vol. 18, no. 3, pp. 145–156, Jan. 1988.
- [16] I. Wijayanto, A. Rizal, and A. Humairani, “Seizure Detection Based on EEG Signals Using Katz Fractal and SVM Classifiers,” in *2019 5th International Conference on Science in Information Technology (ICSITech)*, 2019, pp. 78–82.
- [17] G. Singh, M. Kaur, and B. Singh, “Detection of Epileptic Seizure EEG Signal Using Multiscale Entropies and Complete Ensemble Empirical Mode Decomposition,” *Wirel. Pers. Commun.*, vol. 116, no. 1, pp. 845–864, Jan. 2021.
- [18] G. Ouyang, C. Dang, and X. Li, “Multiscale Entropy Analysis of EEG Recordings in Epileptic Rats,” *Biomed. Eng. Appl. Basis Commun.*, vol. 21,

- no. 03, pp. 169–176, Jun. 2009.
- [19] A. Popov, L. Faes, I. Kotiuchyi, R. Pernice, and V. Kharytonov, “Entropy characteristics of heart rate wavelet multiscale components in epileptic children before and after seizures,” in *2020 11th Conference of the European Study Group on Cardiovascular Oscillations (ESGCO)*, 2020, pp. 1–2.
- [20] A. Rizal, R. Hidayat, and H. A. Nugroho, “Comparison of Multiscale Entropy for Lung Sound Classification,” *Indones. J. Electr. Eng. Comput. Sci.*, vol. 12, no. 3, p. 984, Dec. 2018.
- [21] C. E. Shannon, “A Mathematical Theory of Communication,” *Bell Syst. Tech. J.*, vol. 27, no. 3, pp. 379–423, Jul. 1948.
- [22] H. Azami *et al.*, “Multiscale fluctuation-based dispersion entropy and its applications to neurological diseases,” *IEEE Access*, vol. 7, pp. 68718–68733, 2019.
- [23] H. Azami and J. Escudero, “Coarse-graining approaches in univariate multiscale sample and dispersion entropy,” *Entropy*, vol. 20, no. 2, pp. 1–20, 2018.
- [24] H. Akbari, M. T. Sadiq, and A. U. Rehman, “Classification of normal and depressed EEG signals based on centered correntropy of rhythms in empirical wavelet transform domain,” *Heal. Inf. Sci. Syst.*, vol. 9, no. 1, p. 9, Dec. 2021.
- [25] Z. Li, Y. Li, and K. Zhang, “A Feature Extraction Method of Ship-Radiated Noise Based on Fluctuation-Based Dispersion Entropy and Intrinsic Time-Scale Decomposition,” *Entropy*, vol. 21, no. 7, p. 693, Jul. 2019.
- [26] Y. Yang *et al.*, “Epileptic Seizure Prediction Based on Permutation Entropy,” *Front. Comput. Neurosci.*, vol. 12, no. July, Jul. 2018.
- [27] J. Gilles, “Empirical Wavelet Transform,” *IEEE Trans. Signal Process.*, vol. 61, no. 16, pp. 3999–4010, Aug. 2013.
- [28] A. Shoeb, “Application of machine learning to epileptic seizure onset

- detection and treatment,” *Diss. Massachusetts Inst. Technol.*, pp. 157–162, 2009.
- [29] T. N. Alotaiby, S. A. Alshebeili, F. M. Alotaibi, and S. R. Alrshoud, “Epileptic Seizure Prediction Using CSP and LDA for Scalp EEG Signals,” *Comput. Intell. Neurosci.*, vol. 2017, pp. 1–11, 2017.
- [30] U. R. Acharya, S. L. Oh, Y. Hagiwara, J. H. Tan, and H. Adeli, “Deep convolutional neural network for the automated detection and diagnosis of seizure using EEG signals,” *Comput. Biol. Med.*, vol. 100, pp. 270–278, Sep. 2018.
- [31] Y. Hu, F. Li, H. Li, and C. Liu, “An enhanced empirical wavelet transform for noisy and non-stationary signal processing,” *Digit. Signal Process.*, vol. 60, pp. 220–229, Jan. 2017.
- [32] N. E. Huang *et al.*, “The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis,” *Proc. R. Soc. A Math. Phys. Eng. Sci.*, vol. 454, no. 1971, pp. 903–995, Mar. 1998.
- [33] G. Rilling, P. Flandrin, and P. Goncalves, “On empirical mode decomposition and its algorithms,” *IEEE-EURASIP Work. nonlinear signal image Process.*, vol. 3, pp. 8–11, 2003.
- [34] I. Wijayanto, R. Hartanto, and H. A. Nugroho, “Comparison of empirical mode decomposition and coarse-grained procedure for detecting pre-ictal and ictal condition in electroencephalography signal,” *Informatics Med. Unlocked*, vol. 19, p. 100325, 2020.
- [35] D. Tripathi and N. Agrawal, *Epileptic Seizure Detection Using Empirical Mode Decomposition Based Fuzzy Entropy and Support Vector Machine*, vol. 502. Singapore: Springer Singapore, 2019.
- [36] B. Xuan, Q. Xie, and S. Peng, “EMD Sifting Based on Bandwidth,” *IEEE Signal Process. Lett.*, vol. 14, no. 8, pp. 537–540, Aug. 2007.
- [37] B. Xu, Y. Sheng, P. Li, Q. Cheng, and J. Wu, “Causes and classification of emd mode mixing,” in *Vibroengineering Procedia*, 2019, vol. 22, pp. 158–

164.

- [38] N. Nicolaou and J. Georgiou, “Detection of epileptic electroencephalogram based on Permutation Entropy and Support Vector Machines,” *Expert Syst. Appl.*, vol. 39, no. 1, pp. 202–209, Jan. 2012.
- [39] C. Bandt and B. Pompe, “Permutation Entropy: A Natural Complexity Measure for Time Series,” *Phys. Rev. Lett.*, vol. 88, no. 17, p. 4, 2002.
- [40] U. R. Acharya, H. Fujita, V. K. Sudarshan, S. Bhat, and J. E. W. Koh, “Application of entropies for automated diagnosis of epilepsy using EEG signals: A review,” *Knowledge-Based Syst.*, vol. 88, pp. 85–96, Nov. 2015.
- [41] B. E. Boser, I. M. Guyon, and V. N. Vapnik, “A training algorithm for optimal margin classifiers,” in *Proceedings of the fifth annual workshop on Computational learning theory - COLT '92*, 1992, pp. 144–152.
- [42] F. A. Alturki, K. AlSharabi, A. M. Abdurraqueeb, and M. Aljalal, “EEG Signal Analysis for Diagnosing Neurological Disorders Using Discrete Wavelet Transform and Intelligent Techniques,” *Sensors*, vol. 20, no. 9, p. 2505, Apr. 2020.
- [43] H. Azami and J. Escudero, “Amplitude- and fluctuation-based dispersion entropy,” *Entropy*, vol. 20, no. 3, pp. 1–21, 2018.
- [44] I. Echegoyen, D. López-Sanz, J. H. Martínez, F. Maestú, and J. M. Buldú, “Permutation Entropy and Statistical Complexity in Mild Cognitive Impairment and Alzheimer’s Disease: An Analysis Based on Frequency Bands,” *Entropy*, vol. 22, no. 1, p. 116, 2020.
- [45] V. Shah *et al.*, “The Temple University Hospital Seizure Detection Corpus,” *Front. Neuroinform.*, vol. 12, no. November, pp. 1–6, Nov. 2018.
- [46] I. R. Dwi Saputro, N. D. Maryati, S. R. Solihati, I. Wijayanto, S. Hadiyoso, and R. Patmasari, “Seizure Type Classification on EEG Signal using Support Vector Machine,” *J. Phys. Conf. Ser.*, vol. 1201, no. 1, p. 012065, May 2019.
- [47] L. Tang, M. Zhao, and X. Wu, “Accurate classification of epilepsy seizure

types using wavelet packet decomposition and local detrended fluctuation analysis,” *Electron. Lett.*, vol. 56, no. 17, pp. 861–863, Aug. 2020.

- [48] U. R. Acharya, Y. Hagiwara, and H. Adeli, “Automated seizure prediction,” *Epilepsy Behav.*, vol. 88, pp. 251–261, Nov. 2018.