

DAFTAR PUSTAKA

Agusti, A.M., Wijayanto, I. and Hadiyoso, S., n.d. *Analisis Pemetaan Biometrik Menggunakan EEG Brainwave dan Stimuli Berupa Gambar. Analysis of Biometric Mapping using EEG Brainwave and Stimuli in Forming Picture.*

al-Qerem, A., Kharbat, F., Nashwan, S., Ashraf, S. and blaou, khairi, 2020. General model for best feature extraction of EEG using discrete wavelet transform wavelet family and differential evolution. *International Journal of Distributed Sensor Networks*, 16(3), p.155014772091100. <https://doi.org/10.1177/1550147720911009>.

Alturki, F.A., Aljalal, M., Abdurraqueeb, A.M., Alsharabi, K. and Al-Shamma'a, A.A., 2021. Common Spatial Pattern Technique With EEG Signals for Diagnosis of Autism and Epilepsy Disorders. *IEEE Access*, 9, pp.24334–24349. <https://doi.org/10.1109/ACCESS.2021.3056619>.

Alturki, F.A., AlSharabi, K., Abdurraqueeb, A.M. and Aljalal, M., 2020. EEG Signal Analysis for Diagnosing Neurological Disorders Using Discrete Wavelet Transform and Intelligent Techniques. *Sensors*, 20(9), p.2505. <https://doi.org/10.3390/s20092505>.

Alvi, A.M., Siuly, S. and Wang, H., 2022. Neurological abnormality detection from electroencephalography data: a review. *Artificial Intelligence Review*, 55(3), pp.2275–2312. <https://doi.org/10.1007/s10462-021-10062-8>.

Asadur Rahman, Md., Foisal Hossain, Md., Hossain, M. and Ahmmed, R., 2020. Employing PCA and t-statistical approach for feature extraction and classification of emotion from multichannel EEG signal. *Egyptian Informatics Journal*, 21(1), pp.23–35. <https://doi.org/10.1016/j.eij.2019.10.002>.

Camussi, R. and Meloni, S., 2021. On the Application of Wavelet Transform in Jet Aeroacoustics. *Fluids*, 6(8), p.299. <https://doi.org/10.3390/fluids6080299>.



Choubey, H. and Pandey, A., 2021. A combination of statistical parameters for the detection of epilepsy and EEG classification using ANN and KNN classifier. *Signal, Image and Video Processing*, 15(3), pp.475–483. <https://doi.org/10.1007/s11760-020-01767-4>.

Chu, R., Wang, J., Zhang, Q. and Chen, H., 2022. An adaptive noise removal method for EEG signals. In: *Journal of Physics: Conference Series*. Institute of Physics. <https://doi.org/10.1088/1742-6596/2414/1/012007>.

Eltrass, A.S. and Ghanem, N.H., 2021. A new automated multi-stage system of non-local means and multi-kernel adaptive filtering techniques for EEG noise and artifacts suppression. *Journal of Neural Engineering*, 18(3), p.036023. <https://doi.org/10.1088/1741-2552/abe397>.

Farsi, L., Siuly, S., Kabir, E. and Wang, H., 2021. Classification of Alcoholic EEG Signals Using a Deep Learning Method. *IEEE Sensors Journal*, 21(3), pp.3552–3560. <https://doi.org/10.1109/JSEN.2020.3026830>.

Gao, Y., Gao, B., Chen, Q., Liu, J. and Zhang, Y., 2020. Deep Convolutional Neural Network-Based Epileptic Electroencephalogram (EEG) Signal Classification. *Frontiers in Neurology*, 11. <https://doi.org/10.3389/fneur.2020.00375>.

Gao, Z., Dang, W., Wang, X., Hong, X., Hou, L., Ma, K. and Perc, M., 2021. Complex networks and deep learning for EEG signal analysis. *Cognitive Neurodynamics*, 15(3), pp.369–388. <https://doi.org/10.1007/s11571-020-09626-1>.

Garg, S., 2019. *A Study on the Structure of Neural Networks and the Mathematics behind Backpropagation*. [online] Available at: <<https://www.researchgate.net/publication/342412635>>.

Graps, A., 1995. An Introduction to Wavelets. *IEEE Computational Science & Engineering*, 2(2), pp.50–61. <https://doi.org/10.1109/99.388960>.

anadian Nurhayati-Wolff, 2024. *Average daily time spent using various devices in Indonesia in 3rd quarter 2023, by activity*.



<https://www.statista.com/statistics/803524/daily-time-spent-using-online-media-by-activity-indonesia/>.

Hijazi, A., Al-Dahidi, S. and Altarazi, S., 2020. A Novel Assisted Artificial Neural Network Modeling Approach for Improved Accuracy Using Small Datasets: Application in Residual Strength Evaluation of Panels with Multiple Site Damage Cracks. *Applied Sciences*, 10(22), p.8255. <https://doi.org/10.3390/app10228255>.

Hima C.S., Asheeta A, Chithra C. Nair, SandhyaM. J. Nair and Fathima Beevi U, 2020. A Review on *Brainwave* Therapy. *World Journal of Pharmaceutical Sciences*, 8(11), pp.39–73.

Ieracitano, C., Mammone, N., Hussain, A. and Morabito, F.C., 2020. A novel multi-modal machine learning based approach for automatic classification of EEG recordings in dementia. *Neural Networks*, 123, pp.176–190. <https://doi.org/10.1016/j.neunet.2019.12.006>.

Infotech, 2021. *Pauli Test: Understanding, Tips and How to Do it*.

Infotech, 2023. *Pauli Test: Definition, Tips and How to Do it*.

Karpiel, I., Kurasz, Z., Kurasz, R. and Duch, K., 2021. The influence of filters on EEG-ERP testing: Analysis of motor cortex in healthy subjects. *Sensors*, 21(22). <https://doi.org/10.3390/s21227711>.

Keles, B., McCrae, N. and Grealish, A., 2020. A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*, 25(1), pp.79–93. <https://doi.org/10.1080/02673843.2019.1590851>.

Khodijah Hulliyah, Anif Hanifa Setianingrum and William Santoso, 2023. Sinyal Elektroensefalografi Untuk Deteksi Emosi Saat Mendengar Stimulus Pembacaan Al-Quran Menggunakan Wavelet Transform. *Technomedia Journal*), 8, pp.175–188.

im, J., Kim, M., Jang, M. and Lee, J., 2022. The Effect of Juingong tation on the Theta to Alpha Ratio in the Temporoparietal and Anterior



Frontal EEG Recordings. *International Journal of Environmental Research and Public Health*, 19(3), p.1721. <https://doi.org/10.3390/ijerph19031721>.

Kumar, A., Tiwari, R. and Gaur, A., 2020. Low Frequency Noise Remove from EEG Signal. *International Journal of Recent Technology and Engineering (IJRTE)*, [online] 9(1), pp.1510–1513. <https://doi.org/10.35940/ijrte.A2456.059120>.

Lahmiri, S. and Boukadoum, M., 2011. Classification of brain MRI using the LH and HL wavelet transform sub-bands. In: *2011 IEEE International Symposium of Circuits and Systems (ISCAS)*. IEEE. pp.1025–1028. <https://doi.org/10.1109/ISCAS.2011.5937743>.

Lestari, V.N. and Subanar, 2015. *Transformasi Wavelet Diskret Untuk Data Time Series*.

Lillicrap, T.P., Santoro, A., Marris, L., Akerman, C.J. and Hinton, G., 2020. Backpropagation and the brain. *Nature Reviews Neuroscience*, 21(6), pp.335–346. <https://doi.org/10.1038/s41583-020-0277-3>.

Luo, Y., Fu, Q., Xie, J., Qin, Y., Wu, G., Liu, J., Jiang, F., Cao, Y. and Ding, X., 2020. EEG-Based Emotion Classification Using Spiking Neural Networks. *IEEE Access*, 8, pp.46007–46016. <https://doi.org/10.1109/ACCESS.2020.2978163>.

Matthews, G., 2021. Stress states, personality and cognitive functioning: A review of research with the Dundee Stress State Questionnaire. *Personality and Individual Differences*, 169, p.110083. <https://doi.org/10.1016/j.paid.2020.110083>.

Mayildurai, R., Logeshkumar, S., Priyanka, A. and Mythili, A.S., 2019. Destructive Effects Of Distraction On Younger Generation. *International Journal of Engineering and Advanced Technology*, 8(6s), pp.76–78. <https://doi.org/10.35940/ijeat.F1015.0886S19>.



Mercer, T., Shaw, R. and Fisher, L., 2022. Sources and mechanisms of modality-specific distraction in visual short-term memory. *Visual Cognition*, 30(9), pp.617–639. <https://doi.org/10.1080/13506285.2022.2162174>.

Michel, C.M. and Brunet, D., 2019. EEG Source Imaging: A Practical Review of the Analysis Steps. *Frontiers in Neurology*, 10. <https://doi.org/10.3389/fneur.2019.00325>.

Mira Yulia, Anita and Cantika Miranda, 2019. Klasifikasi Sinyal EEG dengan Stimuli Aromatik Menggunakan Metode Support Vector Machine. *Jurnal Ilmu Komputer dan Bisnis*, 10 No. 1, pp.2156–2166.

Motdhare, Dr.S. and Mathur, Dr.G., 2023. A Review on Detection and Correction of Artifacts from EEG Data. *International Journal of Recent Technology and Engineering (IJRTE)*, [online] 11(6), pp.74–79. <https://doi.org/10.35940/ijrte.F7497.0311623>.

Muhammad Alif Rizqi Hatmadiansyah, Jangkung Raharjo and Gelar Budiman, 2021. Klasifikasi Sinyal Alpha Beta Terhadap Konsentrasi Diri Dalam Kondisi Mengerjakan Tes Matematika Menggunakan Metode K-Nearest Neighbor(K-NN). *e-Proceeding of Engineering*, 8 No. 5, pp.5090–5099.

Pooja, Pahuja, S. and Veer, K., 2022. Recent Approaches on Classification and Feature Extraction of EEG Signal: A Review. *Robotica*, 40(1), pp.77–101. <https://doi.org/10.1017/S0263574721000382>.

Raghu, S., Sriraam, N., Temel, Y., Rao, S.V. and Kubben, P.L., 2020. EEG based multi-class seizure type classification using convolutional neural network and transfer learning. *Neural Networks*, 124, pp.202–212. <https://doi.org/10.1016/j.neunet.2020.01.017>.

Rahman, Md.M., Hassan Bhuiyan, M.I. and Das, A.B., 2019. Classification of focal and non-focal EEG signals in VMD-DWT domain using ensemble learning. *Biomedical Signal Processing and Control*, 50, pp.72–82. <https://doi.org/10.1016/j.bspc.2019.01.012>.

ami Khushaba, 2021. *Wavelets-based Feature Extraction*.



Richard, C., Karić, M.S., McConnell, M., Poole, J., Rupp, G., Fink, A., Meghdadi, A. and Berka, C., 2021. Elevated Inter-Brain Coherence Between Subjects With Concordant Stances During Discussion of Social Issues. *Frontiers in Human Neuroscience*, 15. <https://doi.org/10.3389/fnhum.2021.611886>.

Rizka Nuzul Sofiani and Dwi Juniati, 2022. Klasifikasi Jenis Emosi Berdasarkan Gelombang Otak Menggunakan Dimensi Higuchi dengan K-Nearest Neighbor. *Jurnal Ilmiah Matematika*, 10, pp.150–160.

Throuvala, M.A., Pontes, H.M., Tsaousis, I., Griffiths, M.D., Rennoldson, M. and Kuss, D.J., 2021. Exploring the Dimensions of Smartphone Distraction: Development, Validation, Measurement Invariance, and Latent Mean Differences of the Smartphone Distraction Scale (SDS). *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsyt.2021.642634>.

Tuncer, T., Dogan, S. and Subasi, A., 2021. EEG-based driving fatigue detection using multilevel feature extraction and iterative hybrid feature selection. *Biomedical Signal Processing and Control*, 68, p.102591. <https://doi.org/10.1016/j.bspc.2021.102591>.

Vidi Arhavi Edward Mawikere, Jangkung Raharjo and Arief Budiarto, 2020. Analisis Sinyal Gelombang Otak Manusia Saat Bermain Gitar Sembari Bernyanyi Dan Tidak Bernyanyi Berbasis Eeg Dengan Menggunakan Metode Discrete Wavelet Transform Dan K-Nearest Neighbor. *e-Proceeding of Engineering*, 7 No. 2, pp.3430–3445.

Wang, Q., Loh, J.M., He, X. and Wang, Y., 2023. A Latent State Space Model for Estimating Brain Dynamics from Electroencephalogram (EEG) Data. *Biometrics*, 79(3), pp.2444–2457. <https://doi.org/10.1111/biom.13742>.

Yazid, M., Fahmi, F., Sutanto, E., Shalannanda, W., Shoalihin, R., Horng, G.-J. and Aripriharta, 2021. Simple Detection of Epilepsy From EEG Signal ; Local Binary Pattern Transition Histogram. *IEEE Access*, 9, pp.150252–57. <https://doi.org/10.1109/ACCESS.2021.3126065>.



Zhang, C., Kim, Y.-K. and Eskandarian, A., 2021. EEG-Inception: An Accurate and Robust End-to-End Neural Network for EEG-based Motor Imagery Classification.



LAMPIRAN

Lampiran 1. Format tes Pauli yang digunakan sebagai stimulus

PAULI TEST

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