





















- [7] B. Rodriguez-Tapia, I. Soto, D. M. Martinez, and N. C. Arballo, "Myoelectric Interfaces and Related Applications: Current State of EMG Signal Processing—A Systematic Review," *IEEE Access*, vol. 8, 2020, doi: 10.1109/ACCESS.2019.2963881.
- [8] T. Partala, V. Surakka, and T. Vanhala, "Real-time estimation of emotional experiences from facial expressions," *Interact. Comput.*, vol. 18, no. 2, pp. 208–226, 2006.
- [9] R. W. Picard, E. Vyzas, and J. Healey, "Toward machine emotional intelligence: analysis of the affective physiological state," *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 23, no. 10, pp. 1175–1191, Oct. 2001.
- [10] B. Cheng and G.-Y. Liu, "Emotion recognition from surface EMG signal using wavelet transform and neural network," *J. Comput. Appl.*, vol. 28, no. 2, Feb. 2008, doi: 10.3724/SP.J.1087.2008.00333.
- [11] Y. G. Yang and S. Yang, "Study of Emotion Recognition Based on Surface Electromyography and Improved Least Squares Support Vector Machine," *J. Comput.*, vol. 6, no. 8, Aug. 2011, doi: 10.4304/jcp.6.8.1707-1714.
- [12] S. Jerritta, M. Murugappan, K. Wan, and S. Yaacob, "Emotion recognition from facial EMG signals using higher order statistics and principal component analysis," *J. Chinese Inst. Eng.*, vol. 37, no. 3, Apr. 2014, doi: 10.1080/02533839.2013.799946.
- [13] V. Kehri, R. Ingle, S. Patil, and R. N. Awale, "Analysis of Facial EMG Signal for Emotion Recognition Using Wavelet Packet Transform and SVM," *M. Tanveer R. B. Pachori (eds.), Mach. Intell. Signal Anal. Adv. Intell. Syst. Comput.*, vol. 748, pp. 247–257, 2019.
- [14] S. A. Mithbavkar and M. S. Shah, "EMG based emotion recognition in Indian classical dance," *Biosci. Biotechnol. Res. Commun.*, vol. 13, no. 14, pp. 330–334, Dec. 2020.
- [15] S. A. Mithbavkar and M. S. Shah, "Recognition of Emotion Through Facial Expressions Using EMG Signal," in *International Conference on Nascent Technologies in Engineering (ICNTE)*, 2019, pp. 1–6.
- [16] L. Kulke, D. Feyerabend, and A. Schacht, "A Comparison of the Affectiva iMotions Facial Expression Analysis Software With EMG for Identifying Facial Expressions of Emotion," *Front. Psychol.*, vol. 11, Feb. 2020, doi: 10.3389/fpsyg.2020.00329.
- [17] M. O'Sullivan, A. Temko, A. Bocchino, C. O'Mahony, G. Boylan, and E. Popovici, "Analysis of a Low-Cost EEG Monitoring System and Dry Electrodes toward Clinical Use in the Neonatal ICU," *Sensors*, vol. 19, no. 11, Jun. 2019, doi: 10.3390/s19112637.
- [18] T. S. H. Wingenbach, M. Brosnan, M. C. Pfaltz, P. Peyk, and C. Ashwin, "Perception of Discrete Emotions in Others: Evidence for Distinct Facial Mimicry Patterns," *Sci. Rep.*, vol. 10, no. 1, Dec. 2020, doi: 10.1038/s41598-020-61563-5.
- [19] Y. Chen, Z. Yang, and J. Wang, "Eyebrow emotional expression recognition using surface EMG signals," *Neurocomputing*, vol. 168, Nov. 2015, doi: 10.1016/j.neucom.2015.05.037.
- [20] X. Zhang, C. Xu, W. Xue, J. Hu, Y. He, and M. Gao, "Emotion Recognition Based on Multichannel Physiological Signals with Comprehensive Nonlinear Processing," *Sensors*, vol. 18, no. 11, Nov. 2018, doi: 10.3390/s18113886.
- [21] B. D. Luciani, D. M. Desmet, A. A. Alkayyali, J. M. Leonardis, and D. B. Lipps, "Identifying the mechanical and neural properties of the sternocleidomastoid muscles," *J. Appl. Physiol.*, vol. 124, no. 5, May 2018, doi: 10.1152/jappphysiol.00892.2017.
- [22] C. F. Tan and W. Chen, "The relationship of head rotation angle and SCM EMG value for the development of AnS2," 2010.
- [23] A. Phinyomark, R. N. Khushaba, and E. Scheme, "Feature Extraction and Selection for Myoelectric Control Based on Wearable EMG Sensors," *Sensors*, vol. 18, no. 5, May 2018, doi: 10.3390/s18051615.
- [24] M. Hamed, S.-H. Salleh, C.-M. Ting, M. Astaraki, and A. M. Noor, "Robust Facial Expression Recognition for MuCI: A Comprehensive Neuromuscular Signal Analysis," *IEEE Trans. Affect. Comput.*, vol. 9, no. 1, Jan. 2018, doi: 10.1109/TAFFC.2016.2569098.
- [25] N. Nazmi *et al.*, "Assessment on Stationarity of EMG Signals with Different Windows Size During Isotonic Contractions," *Appl. Sci.*, vol. 7, no. 10, Oct. 2017, doi: 10.3390/app7101050.
- [26] C. Spiewak, "A Comprehensive Study on EMG Feature Extraction and Classifiers," *Open Access J. Biomed. Eng. Biosci.*, vol. 1, no. 1, Feb. 2018, doi: 10.32474/OAJBEB.2018.01.000104.
- [27] U. Kaimkhani, B. Naz, and S. Narejo, "Rainfall Prediction Using Time Series Nonlinear Autoregressive Neural Network," *Int. J. Comput. Sci. Eng.*, vol. 8, no. 1, Jan. 2021, doi: 10.14445/23488387/IJCSE-V8I1P106.
- [28] Z. Boussaada, O. Curea, A. Remaci, H. Camblong, and N. Mrabet Bellaaj, "A Nonlinear Autoregressive Exogenous (NARX) Neural Network Model for the Prediction of the Daily Direct Solar Radiation," *Energies*, vol. 11, no. 3, Mar. 2018, doi: 10.3390/en11030620.
- [29] J. Bilski, B. Kowalczyk, A. Marchlewska, and J. M. Zurada, "Local Levenberg-Marquardt Algorithm for Learning Feedforward Neural Networks," *J. Artif. Intell. Soft Comput. Res.*, vol. 10, no. 4, Oct. 2020, doi: 10.2478/jaiscr-2020-0020.
- [30] G. Kłosowski, T. Rymarczyk, D. Wójcik, S. Skowron, T. Cieplak, and P. Adamkiewicz, "The Use of Time-Frequency Moments as Inputs of LSTM Network for ECG Signal Classification," *Electronics*, vol. 9, no. 9, Sep. 2020, doi: 10.3390/electronics9091452.
- [31] J. Kumar, R. Goomer, and A. K. Singh, "Long Short Term Memory Recurrent Neural Network (LSTM-RNN) Based Workload Forecasting Model For Cloud Datacenters," *Procedia Comput. Sci.*, vol. 125, 2018, doi: 10.1016/j.procs.2017.12.087.
- [32] M. A. Bashar, R. Nayak, and N. Suzor, "Regularising LSTM classifier by transfer learning for detecting misogynistic tweets with small training set," *Knowl. Inf. Syst.*, vol. 62, no. 10, Oct. 2020, doi: 10.1007/s10115-020-01481-0.
- [33] D. Brzezinski and J. Stefanowski, "Prequential AUC: properties of the area under the ROC curve for data streams with concept drift," *Knowl. Inf. Syst.*, vol. 52, no. 2, Aug. 2017, doi: 10.1007/s10115-017-1022-8.
- [34] J.-M. Vivo, M. Franco, and D. Vicari, "Rethinking a ROC partial area index for evaluating the classification performance at a high specificity range," *Adv. Data Anal. Classif.*, vol. 12, no. 3, Sep. 2018, doi: 10.1007/s11634-017-0295-9.
- [35] Y. Ma, X. Liang, G. Sheng, J. T. Kwok, M. Wang, and G. Li, "Noniterative Sparse LS-SVM Based on Globally Representative Point Selection," *IEEE Trans. Neural Networks Learn. Syst.*, vol. 32, no. 2, Feb. 2021, doi: 10.1109/TNNLS.2020.2979466.