DAFTAR PUSTAKA

[1] G. Ke, Q. Meng, T. Finley, T. Wang, W. Chen, W. Ma, Q. Ye, and T. Y. Liu, "Lightgbm: A highly efficient gradient boosting decision tree," vol. 2017-December, 2017.

[2] D. D. Rufo, T. G. Debelee, A. Ibenthal, and W. G. Negera, "Diagnosis of diabetes mellitus using gradient boosting machine (lightgbm)," *Diagnostics*, vol. 11, 2021.

[3] D. Chicco and G. Jurman, "The advantages of the matthews correlation coefficient (mcc) over f1 score and accuracy in binary classification evaluation," *BMC Genomics*, vol. 21, 2020.

[4] G. D. Buckberg, N. C. Nanda, C. Nguyen, and M. J. Kocica, "What is the heart? anatomy, function, pathophysiology, and misconceptions," 2018.

[5] M. Ciccarelli, D. Dawson, I. Falcao-Pires, M. Giacca, N. Hamdani, S. Heymans, A. Hooghiemstra, A. Leeuwis, D. Hermkens, C. G. Tocchetti, J. V. D. Velden, S. Zacchigna, and T. Thum, "Reciprocal organ interactions during heart failure: A position paper from the esc working group on myocardial function," 2021.

[6] A. Groenewegen, F. H. Rutten, A. Mosterd, and A. W. Hoes, "Epidemiology of heart failure," 2020.

[7] WHO (World Health Organization), "Cardiovascular diseases (CVDs)." [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

[8] C. Pérez, E. Pueyo, J. P. Martínez, J. Viik, and P. Laguna, "Qt interval time lag in response to heart rate changes during stress test for coronary artery disease diagnosis," *Biomedical Signal Processing and Control*, vol. 86, 2023.

[9] J. Iskander, P. Kelada, L. Rashad, D. Massoud, P. Afdal, and A. F. Abdelmassih, "Advanced echocardiography techniques: The future stethoscope of systemic diseases," 2022.

[10] A. Javeed, S. Zhou, L. Yongjian, I. Qasim, A. Noor, and R. Nour, "An intelligent learning system based on random search algorithm and optimized random forest model for improved heart disease detection," *IEEE Access*, vol. 7, 2019.

[11] N. A. Baghdadi, S. M. F. Abdelaliem, A. Malki, I. Gad, A. Ewis, and E. Atlam, "Advanced machine learning techniques for cardiovascular disease early detection and diagnosis," *Journal of Big Data*, vol. 10, 2023.

[12] N. Ramalingamsakthivelan, V. Silambarasan, S. Thavasi, and P. V. Shankar, "Heart disease risk assessment by using lightgbm technique," *IJFMR*, vol. 5, 2023.

[13] A. Ishaq, S. Sadiq, M. Umer, S. Ullah, S. Mirjalili, V. Rupapara, and M. Nappi, "Improving the prediction of heart failure patients' survival using smote and effective data mining techniques," *IEEE Access*, vol. 9, 2021.

[14] J. Y. Araz and M. Spannowsky, "Combine and conquer: event reconstruction with bayesian ensemble neural networks," *Journal of High Energy Physics*, vol. 2021, pp. 1–23, 2021.

[15] A. Mohammed and R. Kora, "A comprehensive review on ensemble deep learning: Opportunities and challenges," 2023.

[16] A. O. Abuassba, Z. Dezheng, H. Ali, F. Zhang, and K. Ali, "Classification with ensembles and case study on functional magnetic resonance imaging," *Digit. Commun. Networks*, vol. 8, pp. 80–86, 2021.

[17] N. Alon, A. Gonen, E. Hazan, and S. Moran, "Boosting simple learners," 2021.

[18] T. Toharudin, R. E. Caraka, I. R. Pratiwi, Y. Kim, P. U. Gio, A. D. Sakti, M. Noh, F. A. L. Nugraha, R. S. Pontoh, T. H. Putri, T. S. Azzahra, J. J. Cerelia, G. Darmawan, and B. Pardamean, "Boosting algorithm to handle unbalanced classification of pm2.5concentration levels by observing meteorological parameters in jakarta-indonesia using adaboost, xgboost, catboost, and lightgbm," *IEEE Access*, vol. 11, 2023.

[19] S. M. Ganie, P. K. D. Pramanik, M. B. Malik, A. Nayyar, and K. S. Kwak, "An improved ensemble learning approach for heart disease prediction using boosting algorithms," *Computer Systems Science and Engineering*, vol. 46, 2023.

[20] H. Yang, Z. Chen, H. Yang, and M. Tian, "Predicting coronary heart disease using an improved lightgbm model: Performance analysis and comparison," *IEEE Access*, vol. 11, 2023.

[21] J. Yan, Y. Xu, Q. Cheng, S. Jiang, Q. Wang, Y. Xiao, C. Ma, J. Yan, and X. Wang, "Lightgbm: accelerated genomically designed crop breeding through ensemble learning," *Genome Biology*, vol. 22, 2021.

[22] J. L. Leevy, J. Hancock, R. Zuech, and T. M. Khoshgoftaar, "Detecting cybersecurity attacks across different network features and learners," *Journal of Big Data*, vol. 8, 2021.

[23] R. R. R. A. S. T. B. Santoso, "Implementasi metode lightgbm untuk klasifikasi kondisi abnormal pada pengemudi sepeda motor berbasis sensor smartphone,"

Politeknik Caltex Riau, vol. Vol. 7 No. 2 (2021): Jurnal Komputer Terapan, 2021. [Online]. Available: https://jurnal.pcr.ac.id/index.php/jkt/article/view/5164/1737

[24] "Penerapan teknik random oversampling untuk mengatasi imbalance class dalam klasifikasi website phishing menggunakan algoritma lightgbm," *Institut Teknologi Nasional Malang*, vol. Vol 7 No 1 (2023): JATI Vol. 7 No. 1, 2023.

[25] M. Mamun, A. Farjana, M. A. Mamun, M. S. Ahammed, and M. M. Rahman, "Heart failure survival prediction using machine learning algorithm: Am i safe from heart failure?" 2022.

[26] T. A. Munandar, S. Sumiati, and V. Rosalina, "Pattern of symptom correlation on type of heart disease using approach of pearson correlation coefficient," vol. 830, 2020.

[27] D. Alsoof, C. L. McDonald, E. O. Kuris, and A. H. Daniels, "Machine learning for the orthopaedic surgeon," *The Journal of Bone and Joint Surgery*, vol. 104, pp. 1586 – 1594, 2022.

[28] C. Janiesch, P. Zschech, and K. Heinrich, "Machine learning and deep learning," *Electronic Markets*, vol. 31, pp. 685–695, 2021.

[29] K. Rachineni, V. M. R. Kakita, N. P. Awasthi, V. S. Shirke, R. V. Hosur, and S. C. Shukla, "Identifying type of sugar adulterants in honey: Combined application of nmr spectroscopy and supervised machine learning classification," *Current Research in Food Science*, vol. 5, 2022.

[30] R. R. Menon, S. Ghosh, and S. Srivastava, "Clues: A benchmark for learning classifiers using natural language explanations," pp. 6523–6546, 2022.

[31] B. Wang, D. Mayo, A. Deza, A. Barbu, and C. Conwell, "On the use of cortical magnification and saccades as biological proxies for data augmentation," *ArXiv*, vol. abs/2112.07173, 2021.

[32] A. Bhunia, P. N. Chowdhury, Y. Yang, T. M. Hospedales, T. Xiang, and Y.-Z. Song, "Vectorization and rasterization: Self-supervised learning for sketch and handwriting," *2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 5668–5677, 2021.

[33] C. Bentéjac, A. Csörgo, and G. Martínez-Muñoz, "A comparative analysis of gradient boosting algorithms," *Artificial Intelligence Review*, vol. 54, pp. 1937 – 1967, 2020.

[34] J. Vitorino, R. Andrade, I. Praça, O. Sousa, and E. Maia, "A comparative analysis of machine learning techniques for iot intrusion detection," vol. 13291 LNCS, 2022.

[35] H. Nugroho, N. P. Utama, and K. Surendro, "Normalization and outlier removal in class center-based firefly algorithm for missing value imputation," *Journal of Big Data*, vol. 8, 2021.

[36] V. Kamble and S. Deshmukh, "Comparative analysis of standard error using imputation method," *International Journal of Innovations in Engineering Research and Technology*, p. 1–6, Mar. 2021. [Online]. Available: https://repo.ijiert.org/index.php/ijiert/article/view/744

[37] F. I. Kurniadi, R. C. Rohmana, and L. Taufani, "Local mean imputation for handling missing value to provide more accurate facies classification," vol. 216, 2022.

[38] A. Anderies, J. A. R. W. Tchin, P. H. Putro, Y. P. Darmawan, and A. A. S. Gunawan, "Prediction of heart disease uci dataset using machine learning algorithms," *Engineering, MAthematics and Computer Science (EMACS) Journal*, vol. 4, 2022.

[39] F. Pedregosa, G. Varoquaux, A. Gramfort, V. Michel, B. Thirion, O. Grisel, M. Blondel, P. Prettenhofer, R. Weiss, V. Dubourg, J. Vanderplas, A. Passos, D. Cournapeau, M. Brucher, M. Perrot, and E. Duchesnay, "Scikit-learn: Machine learning in Python," *Journal of Machine Learning Research*, vol. 12, pp. 2825–2830, 2011.

[40] R. Barinov, V. Gai, G. Kuznetsov, and V. Golubenko, "Automatic evaluation of neural network training results," *Computers*, vol. 12, 2023.

[41] Y. Bao and S. Yang, "Two novel smote methods for solving imbalanced classification problems," *IEEE Access*, vol. 11, 2023.