

DAFTAR PUSTAKA

- [1] S. R. Nasputra, “Penambahan Logika Alarm pada PLC Chiller Unit 39-V-11 Plant 39 di PT Badak LNG Berbasis PLC Siemens S7-1500,” Universitas Gadjah Mada, Sleman, Laporan, 2023.
- [2] Task Force, *Plant-1: Purification Operation Manual Book*, vol. 1. PT Badak LNG, 2014.
- [3] “manual-x-stream-enhanced-gas-analyzer-series-rosemount-en-71966.pdf.” Accessed: May 29, 2024. [Online]. Available: <https://www.emerson.com/documents/automation/manual-x-stream-enhanced-gas-analyzer-series-rosemount-en-71966.pdf>
- [4] S. Soesatijono and M. Darsin, “Literature Studies on Maintenance Management,” *J. Energy Mech. Mater. Manuf. Eng.*, vol. 6, no. 1, Art. no. 1, May 2021, doi: 10.22219/jemmme.v6i1.12571.
- [5] A. Kane, A. Kore, A. Khandale, S. Nigade, and P. P. Joshi, “Predictive Maintenance using Machine Learning”.
- [6] “AdaBoost Algorithm: Understand, Implement and Learn.” Accessed: May 28, 2024. [Online]. Available: https://www.analyticsvidhya.com/blog/2021/09/adaboost-algorithm-a-complete-guide-for-beginners/#What_Is_the_AdaBoost_Algorithm?
- [7] Y. Jiang, S. Yin, J. Dong, and O. Kaynak, “A Review on Soft Sensors for Monitoring, Control, and Optimization of Industrial Processes,” *IEEE Sens. J.*, vol. 21, no. 11, pp. 12868–12881, Jun. 2021, doi: 10.1109/jsen.2020.3033153.
- [8] F. N. Yuanto, “Perancangan Soft Sensor Berbasis Extreme Gradient Boosting untuk Prediksi Konsentrasi NH₃ pada Unit Kristalizer di Urea Plant I-B Pusri Palembang,” Skripsi, Universitas Gadjah Mada, Sleman, 2023.
- [9] A. Duykuluoglu, “The Significance of Artificial Neural Networks in Educational Research: A Summary of Research and Literature,” vol. 2, no. 2, 2021.
- [10] X. Zhang and Z. Ge, “Local Parameter Optimization of LSSVM for Industrial Soft Sensing With Big Data and Cloud Implementation,” *IEEE Trans. Ind. Inform.*, vol. 16, no. 5, pp. 2917–2928, May 2020, doi: 10.1109/tii.2019.2900479.
- [11] R. R. Küsel, A. J. Wiid, and I. K. Craig, “Soft sensor design for the optimisation of parallel debutaniser columns: An industrial case study,” *IFAC-Pap.*, vol. 53, no. 2, pp. 11716–11721, 2020, doi: 10.1016/j.ifacol.2020.12.671.
- [12] E. D. Kurniawan, “Soft Sensor Berbasis Xtreme Gradient Boosting untuk Prediksi Nilai Kandungan Oksigen dalam Flue Gas pada Boiler PT Pertamina RU V Balikpapan,” Skripsi, Universitas Gadjah Mada, Sleman, 2021.
- [13] Y. Zhuang *et al.*, “A hybrid data-driven and mechanistic model soft sensor for estimating CO₂ concentrations for a carbon capture pilot plant,” *Comput. Ind.*, vol. 143, p. 103747, Dec. 2022, doi: 10.1016/j.compind.2022.103747.



- [14] L. Ye, N. Zhang, G. Li, D. Gu, J. Lu, and Y. Lou, "Intelligent Optimization Design of Distillation Columns Using Surrogate Models Based on GA-BP," *Processes*, vol. 11, no. 8, Art. no. 8, Aug. 2023, doi: 10.3390/pr11082386.
- [15] L. M. Ochoa-Estopier, S. Gourvénec, R. Cahors, N. Behara, and J.-B. Scellier, "Prediction of flooding in distillation columns using machine learning," *Digit. Chem. Eng.*, vol. 7, p. 100098, Jun. 2023, doi: 10.1016/j.dche.2023.100098.
- [16] E. Susanto, "Workshop LPO Project," presented at the Operation Swakelola 2023: Process Train, Samarinda, Nov. 2023.
- [17] M. Fahmi, M. Fauzi, and J. A. R. Hakim, "Studi Awal Desain LNG (Liquefied Natural Gas) Plant Dari Coal Bed Methane (CBM) Dengan Kapasitas Feed 40 MMSCFD," vol. 2, no. 2, 2013.
- [18] Badak LNG, "Plant 1 Purification Unit," Bontang, 2011.
- [19] M. H. N. Fadl, N. Fahira, A. Wiguno, and K. Kuswandi, "PRA DESAIN PABRIK 'LIQUEFIED NATURAL GAS DARI GAS ALAM,'" *J. Fundam. Appl. Chem. Eng. JFACHE*, vol. 2, no. 2, p. 57, Dec. 2021, doi: 10.12962/j2964710x.v2i2.14364.
- [20] T.-V. Dinh, I.-Y. Choi, Y.-S. Son, and J.-C. Kim, "A review on non-dispersive infrared gas sensors: Improvement of sensor detection limit and interference correction," *Sens. Actuators B Chem.*, vol. 231, pp. 529–538, Aug. 2016, doi: 10.1016/j.snb.2016.03.040.
- [21] "application-note-carbon-dioxide-co2-measurement-in-natural-gas-rosemount-en-71684.pdf." Accessed: May 30, 2024. [Online]. Available: <https://www.emerson.com/documents/automation/application-note-carbon-dioxide-co2-measurement-in-natural-gas-rosemount-en-71684.pdf>
- [22] A. Chahal, P. Gulia, and Department of Computer Science and Applications, Maharishi Dayanand University, Rohtak, India., "Machine Learning and Deep Learning," *Int. J. Innov. Technol. Explor. Eng.*, vol. 8, no. 12, pp. 4910–4914, Oct. 2019, doi: 10.35940/ijitee.L3550.1081219.
- [23] J. Alzubi, A. Nayyar, and A. Kumar, "Machine Learning from Theory to Algorithms: An Overview," *J. Phys. Conf. Ser.*, vol. 1142, p. 012012, Nov. 2018, doi: 10.1088/1742-6596/1142/1/012012.
- [24] A. Roihan, P. A. Sunarya, and A. S. Rafika, "Pemanfaatan Machine Learning dalam Berbagai Bidang: Review paper," *IJCIT Indones. J. Comput. Inf. Technol.*, vol. 5, no. 1, May 2020, doi: 10.31294/ijcit.v5i1.7951.
- [25] I. H. Sarker, "Machine Learning: Algorithms, Real-World Applications and Research Directions," *SN Comput. Sci.*, vol. 2, no. 3, p. 160, May 2021, doi: 10.1007/s42979-021-00592-x.
- [26] W. Yan, D. Tang, and Y. Lin, "A Data-Driven Soft Sensor Modeling Method Based on Deep Learning and its Application," *IEEE Trans. Ind. Electron.*, vol. 64, no. 5, pp. 4237–4245, May 2017, doi: 10.1109/TIE.2016.2622668.
- [27] P. Kadlec, B. Gabrys, and S. Strandt, "Data-driven Soft Sensors in the process industry," *Comput. Chem. Eng.*, vol. 33, no. 4, pp. 795–814, Apr. 2009, doi: 10.1016/j.compchemeng.2008.12.012.



- [28] H. J. Galicia, Q. P. He, and J. Wang, "A reduced order soft sensor approach and its application to a continuous digester," *J. Process Control*, vol. 21, no. 4, pp. 489–500, Apr. 2011, doi: 10.1016/j.jprocont.2011.02.001.
- [29] B. Lin, B. Recke, J. K. H. Knudsen, and S. B. Jørgensen, "A systematic approach for soft sensor development," *Comput. Chem. Eng.*, vol. 31, no. 5, pp. 419–425, May 2007, doi: 10.1016/j.compchemeng.2006.05.030.
- [30] I. D. Mienye and Y. Sun, "A Survey of Ensemble Learning: Concepts, Algorithms, Applications, and Prospects," *IEEE Access*, vol. 10, pp. 99129–99149, 2022, doi: 10.1109/ACCESS.2022.3207287.
- [31] R. Huang, M. F. Hanif, M. K. Siddiqui, and M. F. Hanif, "On analysis of entropy measure via logarithmic regression model and Pearson correlation for Tri-s-triazine," *Comput. Mater. Sci.*, vol. 240, p. 112994, May 2024, doi: 10.1016/j.commatsci.2024.112994.
- [32] H. Gong, Y. Li, J. Zhang, B. Zhang, and X. Wang, "A new filter feature selection algorithm for classification task by ensembling pearson correlation coefficient and mutual information," *Eng. Appl. Artif. Intell.*, vol. 131, p. 107865, May 2024, doi: 10.1016/j.engappai.2024.107865.
- [33] H. Rahadian, S. Bandong, A. Widyotriatmo, and E. Joelianto, "Image encoding selection based on Pearson correlation coefficient for time series anomaly detection," *Alex. Eng. J.*, vol. 82, pp. 304–322, Nov. 2023, doi: 10.1016/j.aej.2023.09.070.
- [34] R. Latifah and E. S. Wulandari, "Model Decision Tree untuk Prediksi Jadwal Kerja menggunakan Scikit-Learn".
- [35] Y. Song and Y. Lu, "Decision tree methods: Applications for classification and prediction," *Shanghai Arch. Psychiatry*, vol. 27, no. 2, pp. 130–135, 2015.
- [36] S. Z. H. Rukmana, A. Aziz, and W. Harianto, "OPTIMASI ALGORITMA K-NEAREST NEIGHBOR (KNN) DENGAN NORMALISASI DAN SELEKSI FITUR UNTUK KLASIFIKASI PENYAKIT LIVER," *JATI J. Mhs. Tek. Inform.*, vol. 6, no. 2, Art. no. 2, Aug. 2022, doi: 10.36040/jati.v6i2.4722.
- [37] J. Tang, S. Alelyani, and H. Liu, "Feature selection for classification: A review," in *Data Classification*, CRC Press, 2014, pp. 37–64. doi: 10.1201/b17320.
- [38] Y. Bouchlaghem, Y. Akhiat, and S. Amjad, "Feature Selection: A Review and Comparative Study," *E3S Web Conf.*, vol. 351, p. 01046, 2022, doi: 10.1051/e3sconf/202235101046.
- [39] Y. Zhang *et al.*, "Research and Application of AdaBoost Algorithm Based on SVM," in *2019 IEEE 8th Joint International Information Technology and Artificial Intelligence Conference (ITAIC)*, May 2019, pp. 662–666. doi: 10.1109/ITAIC.2019.8785556.
- [40] R. Wang, "AdaBoost for Feature Selection, Classification and Its Relation with SVM, A Review," *Phys. Procedia*, vol. 25, pp. 800–807, Jan. 2012, doi: 10.1016/j.phpro.2012.03.160.



- [41] D.-C. Feng *et al.*, “Machine learning-based compressive strength prediction for concrete: An adaptive boosting approach,” *Constr. Build. Mater.*, vol. 230, p. 117000, Jan. 2020, doi: 10.1016/j.conbuildmat.2019.117000.
- [42] “AdaBoostRegressor,” scikit-learn. Accessed: May 30, 2024. [Online]. Available: <https://scikit-learn/stable/modules/generated/sklearn.ensemble.AdaBoostRegressor.html>
- [43] J. Wu, X.-Y. Chen, H. Zhang, L.-D. Xiong, H. Lei, and S.-H. Deng, “Hyperparameter Optimization for Machine Learning Models Based on Bayesian Optimization,” *J. Electron. Sci. Technol.*, vol. 17, no. 1, pp. 26–40, Mar. 2019, doi: 10.11989/JEST.1674-862X.80904120.
- [44] T. A. E. Putri, T. Widiari, and R. Santoso, “PENERAPAN TUNING HYPERPARAMETER RANDOMSEARCHCV PADA ADAPTIVE BOOSTING UNTUK PREDIKSI KELANGSUNGAN HIDUP PASIEN GAGAL JANTUNG,” *J. Gaussian*, vol. 11, no. 3, pp. 397–406, Jan. 2023, doi: 10.14710/j.gauss.11.3.397-406.
- [45] U. L. Yuhana, A. Purwarianti, and I. Imamah, “Tuning Hyperparameter pada Gradient Boosting untuk Klasifikasi Soal Cerita Otomatis,” *JEPIN J. Edukasi Dan Penelit. Inform.*, vol. 8, no. 1, pp. 134–139, Apr. 2022, doi: 10.26418/jp.v8i1.50506.

