

DAFTAR PUSTAKA

- [1] SIPSN, "SIPSN," 1 October 2023. [Online]. Available: <https://sipsn.menlhk.go.id/sipsn/>. [Accessed 12 Juli 2024].
- [2] E. Sunarsih, "Konsep Pengolahan Limbah Rumah Tangga dalam Upaya Pencegahan Pencemaran Lingkungan," *Jurnal Ilmu Kesehatan Masyarakat*, vol. 5, 2014.
- [3] R. Andianti, S. Mardiyah and W. S. Purba, *Statistik Lingkungan Hidup Indonesia 2020*, Badan Pusat Statistik/BPS – Statistics Indonesia, 2020.
- [4] Sunarsih and Sutrisno, *Kolam Stabilisasi: Pemodelan Matematika dan Aplikasi*, Semarang: Fastindo, 2023.
- [5] A. F. d. Castillo, M. V. Garibay, C. Senés-Guerrero, D. A. Orozco-Nunnelly, J. d. Anda and M. S. Gradilla-Hernández, "A review of the sustainability of anaerobic reactors combined with constructed wetlands for decentralized wastewater treatment," *Journal of Cleaner Production*, vol. 371, 2022.
- [6] D. R. Arifelia, G. Dianysah and H. Surbakti, "Analisis Kondisi Perairan Ditinjau dari Konsentrasi Total Suspended Solid (TSS) Dan Sebaran Klorofil-A di Muara Sungai Lumpur, Sumatera Selatan," *Maspari Journal*, 2017.
- [7] Rinawati, D. Hidayat, R. Suprianto and P. S. Dewi, "Penentuan Kandungan Zat Padat (Total Dissolve Solid dan Total Suspended Solid) di Perairan Teluk Lampung," *Analit: Analytical and Environmental Chemistry*, pp. 36-45, 2016.
- [8] R. F. Rizka, P. W. Purnomo and A. Sabdaningsih, "Pengaruh Total Suspended Solid (TSS) Terhadap Densitas Zooxanthellae pada Karang Acropora sp. dalam Skala Laboratorium," *Jurnal Pasir Laut*, pp. 95-101, 2020.
- [9] G. S. Bilotta and R. E. Brazier, "Understanding the influence of suspended solids on water quality and aquatic biota," *Water Research*, vol. 42, no. 12, pp. 2849-2861, 2008.
- [10] L. O. Restele, L. O. M. G. Jaya, M. L. Sabaruddin and L. N. D. T. Utami, "Evaluasi Algoritma Total Suspended Solid (TSS) pada Citra Sentinel-2 di Teluk Kendari," *Sebatik*, vol. 26, pp. 495-501, 2022.
- [11] Mahyuddin, M. Tumpu, T. Tamim, M. F. E. Lapian, E. R. Bungin, A. Nurdin and J. , *Pengelolaan Air Limbah*, Makassar: Tohar Media, 2023.
- [12] J. Liu, P. Wang, D. Jiang, J. Nan and W. Zhu, "An integrated data-driven framework for surface water quality anomaly detection and early warning," *Journal of Cleaner Production*, vol. 251, 2020.
- [13] H. Du, Z. Zhao and H. Xue, "ARIMA-M: A New Model for Daily Water Consumption Prediction Based on the Autoregressive Integrated Moving Average Model and the Markov Chain Error Correction," *Water*, 2020.
- [14] V. I. Kontopoulou, A. D. Panagopoulos, I. Kakkos and G. K. Matsopoulos, "A Review of ARIMA vs. Machine Learning Approaches for Time Series Forecasting in Data Driven Networks," *Future Internet*, vol. 15, no. 8, 2023.
- [15] D. Rosadi, *Ekonometrika & Analisis Runtun Waktu Terapan dengan Eviews*, Yogyakarta: Andi, 2012.

- [16] H. Chioma, I. Howard and E. Etuk, "Comparative study on MLR and ARIMAX forecasting models of BOD5," *International Journal of Pure and Applied Science*, 2020.
- [17] . X.-y. Zhang, Q.-t. Zuo, X.-f. Du and J. Tian, "Application of ARIMAX model in predication of basin water resources under climate change," *Desalination and Water Treatment*, p. 235–242, 2018.
- [18] M. A. B. Siddique, B. Mahalder, M. M. Haque and A. K. S. Ahammad, "Impact of climatic factors on water quality parameters in tilapia broodfish ponds and predictive modeling of pond water temperature with ARIMAX," *Heliyon*, 2024.
- [19] M. Alizamir, S. Heddam, S. Kim and A. D. Mehr, "On the implementation of a novel data-intelligence model based on extreme learning machine optimized by bat algorithm for estimating daily chlorophyll-a concentration: Case studies of river and lake in USA," *Journal of Cleaner Production*, vol. 285, 2021.
- [20] C. Janiesch, P. Zschech and K. Heinrich, "Machine learning and deep learning," *Electronic Markets*, p. 685–695, 2021.
- [21] P. Pandit, A. Sagar, B. Ghose, P. Dey, M. Paul, S. Alqadhi, J. Mallick, H. Almohamad and H. G. Abdo, "Hybrid time series models with exogenous variable for improved yield forecasting of major Rabi crops in India," *Scientific Reports*, 2023.
- [22] . H. Aldabagh, X. Zheng and R. Mukkamala, "A Hybrid Deep Learning Approach for Crude Oil Price Prediction," *Journal of Risk and Financial Management*, 2023.
- [23] T.-T.-H. Phan and X. H. Nguyen, "Combining statistical machine learning models with ARIMA for water level forecasting: The case of the Red river," *Advances in Water Resources*, vol. 142, 2020.
- [24] W. Zhi, D. Feng, W.-P. Tsai, G. Sterle, A. Harpold, C. Shen and L. Li, "From Hydrometeorology to River Water Quality: Can a Deep Learning Model Predict Dissolved Oxygen at the Continental Scale?," *Environmental Science and Technology*, p. 2357–2368, 2021.
- [25] D. Zhang, E. S. Hølland, G. Lindholm and H. Ratnaweera, "Hydraulic modeling and deep learning based flow forecasting for optimizing inter catchment wastewater transfer," *Journal of Hydrology*, vol. 567, pp. 792-802, 2018.
- [26] B. Mamandipoor, M. Majd, S. Sheikhalishahi, C. Modena and V. Osmani, "Monitoring and detecting faults in wastewater treatment plants using deep learning," *Environmental Monitoring and Assessment*, vol. 192, 2020.
- [27] S. Farzin, F. N. Chianeh, M. V. Anaraki and F. Mahmoudian, "Introducing a framework for modeling of drug electrochemical removal from wastewater based on data mining algorithms, scatter interpolation method, and multi criteria decision analysis (DID)," *Journal of Cleaner Production*, 2020.
- [28] A. Safari and M. Davallou, " Oil price forecasting using a hybrid model," *Energy*, pp. 49-58, 2018.

- [29] R. Daghigh, S. A. Arshad, K. Ensafjoe and N. Hajialigol, "A data-driven model for a liquid desiccant regenerator equipped with an evacuated tube solar collector: Random forest regression, support vector regression and artificial neural network," *Energy*, 2024.
- [30] I. Loshchilov and F. Hutter, "Fixing Weight Decay Regularization in Adam," *ICLR*, 2019.
- [31] Q. Zou, Q. Xiong, Q. Li, H. Yi, Y. Yu and C. Wu, "A water quality prediction method based on the multi-time scale bidirectional long short-term memory network," *Environmental Science and Pollution Research*, vol. 27, 2020.
- [32] L. Ji, Y. Zou, K. He and B. Zhu, "Carbon futures price forecasting based with ARIMA-CNN LSTM model," in *7th International Conference on Information Technology and Quantitative Management (ITQM 2019)*, 2019.
- [33] Y. Yu, Y. Chen, S. Huang, R. Wang, Y. Wu, H. Zhou, X. Li and Z. Tan, "Enhancing the effluent prediction accuracy with insufficient data based on transfer learning and LSTM algorithm in WWTPs," *Journal of Water Process Engineering*, 2024.
- [34] S. Nurdianti, M. K. Najib, F. Bukhari, R. Revina and F. N. Salsabila, "Performance Comparison of Gradient-Based Convolutional Neural Network Optimizers for Facial Expression Recognition," *BAREKENG: Journal of Mathematics and Its Application*, pp. 927-938, 2022.
- [35] R. Teach, "Forecasting Accuracy and Learning: The Key to Measuring Simulation Performance," *Developments in Business Simulation and Experiential Learning*, vol. 33, pp. 48-57, 2006.
- [36] S. Mulyono, *Peramalan Bisnis dan Ekonometrika*, Yogyakarta: BPFE, 2000.
- [37] V. A. Profillidis and G. N. Botzoris, *Modeling of Transport Demand*, Elsevier, 2018.
- [38] H. A. Khoiri, *Analisis Deret Waktu Univariat*, Madiun: UNIPMA Press, 2023.
- [39] W. Menke and J. Menke, *Environmental Data Analysis with MATLAB*, Academic Press, 2016.
- [40] W. Anbiya and F. C. Garini, "Application of GARCH Forecasting Method in Predicting The Number of Rail Passengers (Thousands of People) in Jabodetabek Region," *Jurnal Matematika, Statistika & Komputasi*, vol. 18, pp. 198-223, 2022.
- [41] R. H. Shumway and D. S. Stoffer, *Time Series Analysis and Its Applications With R Examples*, Third Edition, London: Springer New York Dordrecht Heidelberg, 2010.
- [42] B. Juanda and Junaidi, *Ekonometrika Deret Waktu: Teori dan Aplikasi*, Bogor: IPB Press, 2012.
- [43] F. E. Mokerimban, N. Nainggolan and Y. A. Langi, "Penerapan Metode Autoregressive Integrated Moving Average (ARIMA) dalam Model Intervensi Fungsi Step terhadap Indeks Harga Konsumen di Kota Manado," *d'Cartesian: Jurnal Matematika dan Aplikasi*, vol. 10, pp. 91-99, 2021.
- [44] D. Ispriyanti, "Pemodelan Statistika dengan Transformasi Box Cox," *Jurnal Matematika dan Komputer*, vol. 7, pp. 8-17, 2004.

- [45] V. B. Sitorus, S. Wahyuningsih and M. N. Hayati, "Peramalan dengan Metode Seasonal Autoregressive Integrated Moving Average (SARIMA) di Bidang Ekonomi (Studi Kasus: Inflasi Indonesia)," *Jurnal Eksponensial*, vol. 8, pp. 17-26, 2017.
- [46] G. Matopote and N. P. Joshi, "Associations between Climate Variability and Livestock Production in Botswana: A Vector Autoregression with Exogenous Variables (VARX) Analysis," *Atmosphere*, 2024.
- [47] W. W. S. Wei, *Time Series Analysis: Univariate and Multivariate Methods*, 2nd edition, Addison Wesley, 2006.
- [48] T. Widiharih, *Buku Ajar Statistika Matematika II*, Semarang: Universitas Diponegoro, 2009.
- [49] R. G. Bartle and D. R. Sherbert, *Introduction to Real Analysis*, New York: John Wiley & Sons, Inc., 2000.
- [50] K. Tyagi, C. Rane, H. and M. Manry, *Artificial Intelligence and Machine Learning for EDGE Computing*, Academic Press, 2022.
- [51] R. Djimasbe, S. Gyamfi, C. D. Iweh and B. N. Ribar, "Development of an ARIMAX model for forecasting airport electricity consumption in Accra-Ghana: The role of weather and air passenger traffic," *e-Prime - Advances in Electrical Engineering, Electronics and Energy*, 2024.
- [52] P.-C. Chang, Y.-W. Wang and C.-H. Liu, "The development of a weighted evolving fuzzy neural network for PCB sales forecasting," *Expert Systems with Applications*, vol. 32, no. 1, pp. 86-96, 2007.
- [53] Z. Iba and A. Wardhana, *Metode Penelitian*, Purbalingga: Eureka Media Aksara, 2023.
- [54] M. Susilawati, *Modul Analisis Regresi*, Bali: Program Studi Matematika, FMIPA Universitas Udayana, 2023.
- [55] S. Chapra and R. Canale, *Numerical Methods for Engineers*, Sixth Edition, New York: McGraw-Hill Book Companies, Inc, 2010.
- [56] S. R. C. Putri and L. Junaedi, "Penerapan Metode Peramalan Autoregressive Integrated Moving Average Pada Sistem Informasi Pengendalian Persediaan Bahan Baku (Studi Kasus: Toko Kue Onde-Onde Surabaya)," *Jurnal Ilmu Komputer dan Bisnis (JIKB)*, pp. 164-173, 2022.
- [57] H. Panjaitan, A. Prahutama and S. , "Peramalan Jumlah Penumpang Kereta Api Menggunakan Metode ARIMA, Intervensi, dan ARFIMA (Studi Kasus: Penumpang Kereta Api Kelas Lokal Ekonomi DAOP IV Semarang)," *Jurnal Gaussian*, pp. 96-109, 2018.
- [58] H. M. Saputra, M. Sari, T. Purnomo, B. Suhartawan, I. Asnawi, I. F. J. Palupi, E. S. Sahabuddin, J. Sinaga, A. Juhanto, E. Yuniarti and S. Nur, *Analisis Kualitas Lingkungan*, Padang: Get Press Indonesia, 2023.
- [59] . B. H. Z. Sami, W. J. khai, B. F. Z. Sami, C. M. Fai, Y. Essam, A. N. Ahmed and A. El-Shafie, "Investigating the reliability of machine learning algorithms as a sustainable tool for total suspended solid prediction," *Ain Shams Engineering Journal*, 2021.

- [60] M. Langland and T. Cronin, "A Summary Report of Sediment Processes in Chesapeake Bay and Watershed, Water-Resources Investigations Report 03-4123," US Geological Survey, New Cumberland, Pennsylvania, 2003.
- [61] R. G. Wetzel, *Limnology: Lake and River Ecosystems* Third Edition, San Diego: Academic Press, 2001.
- [62] A. Prandanu and M. Razif, "Perhitungan Korelasi BOD-COD Air dan Sedimen, serta Daya Tampung Beban Pencemaran Air Kali," *Jurnal Purifikasi*, pp. 15-24, 2019.
- [63] A. Nontji, *Laut Nusantara*, Jakarta: Djambatan, 2005.
- [64] Rifardi, *Edisi Revisi Ekologi Sedimen Laut Modern*, Riau: UR PRESS Pekanbaru, 2012.
- [65] H. Effendi, *Telaah Kualitas Air Bagi Pengelolaan Sumber Daya dan Lingkungan Perairan*, Yogyakarta: Kanisius, 2003.
- [66] S. Ramalingam and V. Chandra, "Effect of Water Temperature on Suspended Sediment Concentration and Particle Size in Ionized Water," *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, vol. 44, p. 355–360, 2020.
- [67] M. Rajesh and S. Rehana, "Impact of climate change on river water temperature and dissolved oxygen: Indian riverine thermal regimes," *Scientific Reports*, 2022.
- [68] E. J. Hickin, *River Geomorphology*, Chichester: Wiley, 1995.
- [69] Menteri Lingkungan Hidup dan Kehutanan Indonesia, *Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.80/MENLHK/SETJEN/KUM.1/10/2019*, Jakarta, 2019.
- [70] Pemerintah Daerah Daerah Istimewa Yogyakarta, "Peraturan Daerah Daerah Istimewa Yogyakarta Nomor 7 Tahun 2016 tentang Baku Mutu Air Limbah," Pemerintah Daerah Daerah Istimewa Yogyakarta, Yogyakarta, 2016.
- [71] N. A. Ramadhaniyah and H. F. Satoto, "Analisis Waktu Kerja untuk Penentuan Kebutuhan Tenaga Kerja dalam Memenuhi Permintaan di CV. Barokah Metal Sidoarjo," *Surya Teknika*, vol. 12, pp. 182-186, 2025.
- [72] N. I. Said, *Teknologi Pengolahan Air Limbah : Teori dan Aplikasi*, 1 ed., Jakarta: Erlangga, 2017.
- [73] M. Cools, E. Moons and G. Wets, "Investigating The Variability in Daily Traffic Counts through using of ARIMAX and SARIMAX Models: Models: Assessing Impact of Holidays on Two Divergent Site Locations," *Transportation Research Record Journal of the Transportation Research Board*, 2009.
- [74] Y. Zhang, C. Li, Y. Jiang, L. Sun, R. Zhao, K. Yan and W. Wang, "Accurate prediction of water quality in urban drainage network with integrated EMD-LSTM model," *Journal of Cleaner Production*, 2022.
- [75] S. Al-Dahidi, M. Alrbai, L. Al-Ghussain, A. Alahmer and H. S. Hayajneh, "Data-driven analysis and prediction of wastewater treatment plant performance: Insights and forecasting for sustainable operations," *Bioresource Technology*, 2024.

- [76] L. Ramos, E. Casas, E. Bendek, C. Romero and F. Rivas-Echeverría, "Hyperparameter optimization of YOLOv8 for smoke and wildfire detection: Implications for agricultural and environmental safety," *Artificial Intelligence in Agriculture*, vol. 12, pp. 109-126, 2024.
- [77] A. A. Nadiri, S. Shokri, F. T.-C. Tsai and A. A. Moghaddam, "Prediction of effluent quality parameters of a wastewater treatment plant using a supervised committee fuzzy logic model," *Journal of Cleaner Production*, pp. 539-549, 2018.
- [78] D. Wang, S. Thunéll, U. Lindberg, L. Jiang, J. Trygg, M. Tysklind and N. Souihi, "A machine learning framework to improve effluent quality control in wastewater treatment plants," *Science of the Total Environment*, 2021.
- [79] N. Hejabi, S. M. Saghebian, M. T. Aalami and V. Nourani, "Evaluation of the effluent quality parameters of wastewater treatment plant based on uncertainty analysis and post-processing approaches (case study)," *Water Science & Technology*, pp. 1633-1648, 2021.
- [80] A. Pauls and J. A. Yoder, "Determining Optimum Drop-out Rate for Neural Networks," *The Bridge - The Magazine of IEEE-Eta Kappa Nu*, 2018.
- [81] H.-i. Lim, "A Study on Dropout Techniques to Reduce Overfitting in Deep Neural Networks," 2020.
- [82] I. Goodfellow, Y. Bengio and A. Courville, *Deep Learning*, MIT Press, 2016.
- [83] A. Kolioussis, P. Watcharapichat, M. Weidlich, L. Mai, P. Costa and P. Pietzuch, "Crossbow: scaling deep learning with small batch sizes on multi-GPU servers," 2019.
- [84] S. Hochreiter and J. Schmidhuber, "LSTM can solve hard long time lag problems," *Advances in Neural Information Processing Systems*, 1996.
- [85] U. Michelucci, *Applied Deep Learning: A Case-Based Approach to Understanding Deep Neural Networks*, Apress, 2018.
- [86] Y. Wang, X. Chen, C. Li, Y. Yu, G. Zhou, C. Wang and W. Zhao, "Temperature prediction of lithium-ion battery based on artificial neural network model," *Applied Thermal Engineering*, 2023.
- [87] B. Jena, S. Saxena, G. K. Nayak, L. Saba, N. Sharma and J. S. Suri, "Artificial intelligence-based hybrid deep learning models for image classification: The first narrative review," *Computers in Biology and Medicine*, 2021.
- [88] S. M. Mehzabeen and R. Gayathri, "Heuristically Improvised rice disease classification framework based on adaptive segmentation with the fusion of LSTM layer into Multi-Scale Residual attention Network," *Biomedical Signal Processing and Control*, 2024.
- [89] P. Jiang, Y. Xue and F. Neri, "Continuously evolving dropout with multi-objective evolutionary optimisation," *Engineering Applications of Artificial Intelligence*, 2023.
- [90] P. Zhou, X. Xie, Z. Lin and S. Yan, "Towards Understanding Convergence and Generalization of AdamW," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 46, no. 9, pp. 6486-6493, 2024.

- [91] S. Alam, M. S. Ayub, S. Arora and M. A. Khan, "An investigation of the imputation techniques for missing values in ordinal data enhancing clustering and classification analysis validity," *Decision Analytics Journal*, vol. 9, 2023.
- [92] P. Das and S. Barman, "Perspective Chapter: An Overview of Time Series Decomposition and Its Applications," in *Applied and Theoretical Econometrics*, IntechOpen, 2025, pp. 1-15.
- [93] P. Ncube, M. Pidou, T. Stephenson, B. Jefferson and P. Jarvis, "Consequences of pH change on wastewater depth filtration using a multimedia filter," *Water Research*, vol. 128, pp. 111-119, 2018.
- [94] S. H. Rommel and B. Helmreich, "Influence of Temperature and De-Icing Salt on the Sedimentation of Particulate Matter in Traffic Area Runoff," *Water*, vol. 10, 2018.
- [95] T.-A. Nguyen, N. T.-M. Dao, M. Terashima and H. Yasui, "Improvement of Suspended Solids Removal Efficiency in Sedimentation Tanks by Increasing Settling Area Using Computational Fluid Dynamics," *Journal of Water and Environment Technology*, vol. 17, p. 420–431, 2019.
- [96] M. Jover-Smet, J. Martín-Pascual and A. Trapote, "Model of Suspended Solids Removal in the Primary Sedimentation Tanks for the Treatment of Urban Wastewater," *Water*, vol. 9, 2017.
- [97] M. E. Abalasei, D. Toma, M. Dorus and C. Teodosiu, "The Impact of Climate Change on Water Quality: A Critical Analysis," *Water*, vol. 17, 2025.
- [98] J. Paik and K. Ko, "Seasonal Analysis and Risk Management Strategies for Credit Guarantee Funds: A Case Study from Republic of Korea," *Stats*, vol. 8, 2025.
- [99] H. Hewamalage, K. Ackermann and C. Bergmeir, "Forecast evaluation for data scientists: common pitfalls and best practices," *Data Mining and Knowledge Discovery*, pp. 788-832, 2023.