

## DAFTAR PUSTAKA

- Alifiah, N., Kurniasari, D., Amanto, & Warsono. (2023). Prediction of COVID-19 Using the Artificial Neural Network (ANN) with K-Fold Cross-Validation. *Journal of Information Systems Engineering and Business Intelligence*, 9(1), 16–27. <https://doi.org/10.20473/jisebi.9.1.16-27>
- Alzubaidi, L., Zhang, J., Humaidi, A. J., Al-Dujaili, A., Duan, Y., Al-Shamma, O., Santamaria, J., Fadhel M., Al-Amidie M., & Farhan, L. (2021). Review of Deep Learning: Concepts, CNN Architectures, Challenges, Applications, Future Directions. *Journal of Big Data*, 8(1). <https://doi.org/10.1186/s40537-021-00444-8>
- Aurany, M. T. (2024). *Penerapan Convolutional Neural Network dengan Optimasi AMSGrad pada Klasifikasi Kualitas Jalan Beton*. Semarang: Universitas Diponegoro.
- Beck, H. E., McVicar, T. R., Vergopolan, N., Berg, A., Lutsko, N. J., Dufour, A., Zeng, Z., Jiang, X., Dijk, Albert., & Miralles, D. G. (2023). High-resolution (1 km) Köppen-Geiger maps for 1901–2099 based on constrained CMIP6 projections. *Scientific Data*, 10(1). <https://doi.org/10.1038/s41597-023-02549-6>
- Brandon, K. (2014). *Ecosystem Services from Tropical Forests: Review of Current Science*. Washington, D.C.
- Dehghani, M. (2024). *Deforestation Dataset*. <https://doi.org/10.17632/59xmzmcsjz.1>
- Es-Sabery, F., Hair, A., Qadir, J., Sainz-De-Abajo, B., Garcia-Zapirain, B., & Torre-Diez, I. (2021). Sentence-Level Classification Using Parallel Fuzzy Deep Learning Classifier. In *IEEE Access* (Vol. 9). Morocco: Institute of Electrical and Electronics Engineers Inc. <https://doi.org/10.1109/ACCESS.2021.3053917>
- FAO. (2020). *Global Forest Resources Assessment 2020*. Rome: FAO. <https://doi.org/10.4060/ca9825en>
- FAO. (2023). *Terms and Definitions FRA 2025*. Rome.
- FAO. (2025). *Global Forest Resources Assessment 2025*. Rome: FAO. <https://doi.org/10.4060/cd6709en>

- Gallery, R. E. (2014). Ecology of Tropical Rain Forests. In *Ecology and the Environment* (pp. 247–272). New York, NY: Springer New York. [https://doi.org/10.1007/978-1-4614-7501-9\\_4](https://doi.org/10.1007/978-1-4614-7501-9_4)
- Geron, A. (2019). *Hands-on Machine Learning with Scikit-Learn, Keras, and TensorFlow*. California: O'Reilly Media, Inc.
- Goldsmith, F. B., & Duffey, E. (1998). *Tropical Rain Forest: A Wider Perspective*. London: Springer Science+Business Media, B.V. <https://doi.org/10.1007/978-94-011-4912-9>
- Gonzalez, R. C. ., & Woods, R. E. . (2018). *Digital image processing*. Pearson.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep Learning*. MIT Press.
- Grande, J. C. (2012). Principles of Image Analysis. *Metallography, Microstructure, and Analysis*, 1(5), 227–243. <https://doi.org/10.1007/s13632-012-0037-5>
- Gustavo, L., & Pinto, M. (2020). *Analysis and Deployment of an OCR-SSD Deep Learning Technique for Real-Time Active Car Tracking and Positioning on a Quadrotor*. Itajubá.
- Han, J., Kamber, M., & Pei, J. (2011). *Data Mining. Concepts and Techniques, 3rd Edition (The Morgan Kaufmann Series in Data Management Systems)*.
- Hansen, M. C., Krylov, A., Tyukavina, A., Potapov, P. V., Turubanova, S., Zutta, B., Ifo, S., Margono, B., Stolle, F., & Moore, R. (2016). Humid Tropical Forest Disturbance Alerts Using Landsat Data. *Environmental Research Letters*, 11(3). <https://doi.org/10.1088/1748-9326/11/3/034008>
- Howard, A. G., Zhu, M., Chen, B., Kalenichenko, D., Wang, W., Weyand, T., Andreetto, M., & Adam, H. (2017). MobileNets: Efficient Convolutional Neural Networks for Mobile Vision Applications. *Google Inc*.
- Huang, C., Kairouz, P., Chen, X., Sankar, L., & Rajagopal, R. (2019). *Generative Adversarial Privacy*.
- Ichsan, D. M. (2024). Perbandingan Model Pemetaan Deforestasi Secara Otomatis Menggunakan Klasifikasi Random Forest dan Segmentasi Convolutional Neural Network (U-Net) dengan Citra PlanetScope: Studi Kasus Sebagian Provinsi Riau Dan Provinsi Jambi. Yogyakarta: Universitas Gadjah Mada.
- IPBES. (2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Bonn: IPBES Secretariat.

- Krizhevsky, A. (2010). *Convolutional Deep Belief Networks on CIFAR-10*.
- Krogh, A. (2021). *State of The Tropical Rainforest*. Oslo.
- Lumbanraja, F. R., Pramswary, R. E., & Aristoteles. (2022). Classification of Cracked Concrete Images Using Convolutional Neural Algorithm. *AIP Conference Proceedings*, 2563. American Institute of Physics Inc. <https://doi.org/10.1063/5.0103114>
- Ma, W., & Lu, J. (2017). *An Equivalence of Fully Connected Layer and Convolutional Layer*. Lausanne.
- Minfei, L., Yidong, G., Ze, C., Zhi, W., Erik, S., & Branko, Š. (2022). Microstructure-informed deep convolutional neural network for predicting short-term creep modulus of cement paste. *Cement and Concrete Research*, 152. <https://doi.org/10.1016/j.cemconres.2021.106681>
- Nichols, J. A., Herbert Chan, H. W., & Baker, M. A. B. (2019, February 7). Machine learning: applications of artificial intelligence to imaging and diagnosis. *Biophysical Reviews*, Vol. 11, pp. 111–118. Springer Verlag. <https://doi.org/10.1007/s12551-018-0449-9>
- Nurhikmat, T. (2018). *Implementasi Deep Learning untuk Image Classification Menggunakan Algoritma Convolutional Neural Network (CNN) pada Citra Wayang Golek*. Yogyakarta.
- Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P. Y., Anderson, C., & Marx, A. (2021). *Deforestation fronts: Drivers and responses in a changing world*. Gland, Switzerland.
- Perera, C. L., & Fernando, M. (2020). Comparison of Multiple Linear Regression and Artificial Neural Network Models for the Prediction of Solid Waste Generation in Sri Lanka. *Transactions on Machine Learning and Data Mining*, 13(1), 3–25.
- Prabowo, D. A., Abdullah, D., & Manik, A. (2018). Deteksi dan Perhitungan Objek Berdasarkan Warna Menggunakan Color Object Tracking. In *Jurnal Pseudocode* (Vol. 5). Bengkulu: Jurnal Pseudocode.
- Putri, A. D. A., & Tinaliah, T. (2025). Deep Learning for Classifying Tenera and Dura Oil Palm Using ResNet-50. *Brilliance: Research of Artificial Intelligence*, 5(1), 542–550. <https://doi.org/10.47709/brilliance.v5i1.6562>
- Reddi, S. J., Kale, S., & Kumar, S. (2019). *On the Convergence of Adam and Beyond*. New York: ICLR.

- Republik Indonesia. *Undang-Undang Pokok Kehutanan Nomor 41 Tahun 1999 tentang Kehutanan*. , Pub. L. No. 41 (1999). Jakarta, Indonesia: Pemerintah Republik Indonesia.
- Rohrer, B. (2019). How to Convert a Picture to Numbers. Retrieved December 23, 2025, from [https://brandonrohrer.com/images\\_to\\_numbers.html](https://brandonrohrer.com/images_to_numbers.html)
- Sandler, M., Howard, A., Zhu, M., Zhmoginov, A., & Chen, L.-C. (2019). *MobileNetV2: Inverted Residuals and Linear Bottlenecks*. Retrieved from <http://arxiv.org/abs/1801.04381>
- Sarmadi, H., Wahab, I., Hall, O., Rögnvaldsson, T., & Ohlsson, M. (2024). Human bias and CNNs' superior insights in satellite based poverty mapping. *Scientific Reports*, 14(1). <https://doi.org/10.1038/s41598-024-74150-9>
- Shafik, W., Mojtaba Matinkhah, S., Etemadinejad, P., & Nur Sanda, M. (n.d.). *Reinforcement Learning Rebirth, Techniques, Challenges, and Resolutions*.
- Sharma, S., Sharma, S., & Athaiya, A. (2020). Activation Functions In Neural Networks. In *International Journal of Engineering Applied Sciences and Technology* (Vol. 4). Jaipur: International Journal of Engineering Applied Sciences and Technology.
- Srivastava, N., Hinton, G., Krizhevsky, A., & Salakhutdinov, R. (2014). Dropout: A Simple Way to Prevent Neural Networks from Overfitting. In *Journal of Machine Learning Research* (Vol. 15).
- Sulthanah, R., & Ahmad, N. (2022). Penerapan Metode McCulloch-Pitts Menggunakan Python Untuk Pengujian Pengenalan Pola Operator AND, Operator OR, Operator XOR Pada Fungsi Logika. *J-INTECH (Journal of Information and Technology)*.
- Taye, M. M. (2023, March 1). Theoretical Understanding of Convolutional Neural Network: Concepts, Architectures, Applications, Future Directions. *Computation*, Vol. 11. MDPI. <https://doi.org/10.3390/computation11030052>
- Tragoudaras, A., Stoikos, P., Fanaras, K., Tziouvaras, A., Floros, G., Dimitriou, G., Kolomvatsos, K., & Stamoulis, G. (2022). Design Space Exploration of a Sparse MobileNetV2 Using High-Level Synthesis and Sparse Matrix Techniques on FPGAs. *Sensors*, 22(12). <https://doi.org/10.3390/s22124318>
- United Nations. (2024). *The Sustainable Development Goals Report*. New York: United Nations.

- United Nations Framework Convention on Climate Change. (2015). *Paris Agreement*. United Nations.
- Vignesh, R. P., & Kumar, R. S. (2014). Binary Image Processing Implementation Using Micro blaze Processor. In *International Journal of Innovative Research in Science, Engineering and Technology* (Vol. 3). Tamil Nadu.
- Weber, J., Belloni, B., & Silva, C. (2019). Segmentation and detection of cattle branding images using CNN and SVM classification. *ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal Regular Issue*, 8, 2255–2863. <https://doi.org/10.14201/ADCAIJ2019821931>
- Weisse, M., Goldman, E., & Carter, S. (2024). *Forest Pulse: The Latest on the World's Forests*.
- Wu, H., & Gu, X. (2015). *Towards Dropout Training for Convolutional Neural Networks*. Shanghai: Fudan University.
- Zaid, M. M. A., Mohammed, A. A., & Sumari, P. (2025). Remote Sensing Image Classification Using Convolutional Neural Network (CNN) and Transfer Learning Techniques. *Journal of Computer Science*, 21(3), 635–645. <https://doi.org/10.3844/jcssp.2025.635.645>
- Zhang, C., Zhang, P., Hu, Y., Ma, Z., Ding, X., Yang, Y., & Li, S. (2024). Peach Leaf Shrinkage Disease Recognition Algorithm Based on Attention Spatial Pyramid Pooling Enhanced with Local Attention Network. *Electronics (Switzerland)*, 13(24). <https://doi.org/10.3390/electronics13244973>
- Zhou, S. (2023). *Quantum Data Compression and Quantum Cross Entropy*. California: Stanford University.