

DAFTAR PUSTAKA

- [1] Kementrian Kehutanan, "Mangrove Festival 2025: Indonesia Perkuat Konsolidasi Nasional Rehabilitasi Ekosistem Mangrove." [Online]. Available: <https://www.kehutan.go.id/news/mangrove-festival-2025-indonesia-perkuat-konsolidasi-nasional-rehabilitasi-ekosistem-mangrove>
- [2] Kementrian Lingkungan Hidup, "Statistik Lingkungan Hidup," vol. 1, 2025.
- [3] Badan Riset dan Inovasi Nasional, "Indonesia Jadi Rujukan Dunia dalam Rehabilitasi Mangrove, Delegasi Oman Tertarik Belajar." [Online]. Available: <https://brin.go.id/news/123293/indonesia-jadi-rujukan-dunia-dalam-rehabilitasi-mangrove-delegasi-oman-tertarik-belajar>
- [4] Kementrian Kehutanan, *Statistik Kementrian Kehutanan 2024*. 2024.
- [5] S. S. Vellasamy, S. N. Azmy, N. Hassan, and L. Tokiman, "Democratizing Species Identification: Deep Learning Approach for Image-Based Mangrove Species Classification," 2025.
- [6] F. Farhan, C. A. Sari, E. H. Rachmawanto, and N. R. D. Cahyo, "Mangrove Tree Species Classification Based on Leaf, Stem, and Seed Characteristics Using Convolutional Neural Networks with K-Folds Cross Validation Optimalization," *Adv. Sustain. Sci. Eng. Technol.*, vol. 5, no. 3, p. 2303011, Aug. 2023, doi: 10.26877/asset.v5i3.17188.
- [7] H. Sang, Z. Li, X. Shen, S. Wang, and Y. Zhang, "Rapid Identification of Mangrove Leaves Based on Improved YOLOv10 Model," *Forest*, vol. 16, no. 7, p. 1068, 2025, doi: <https://doi.org/10.3390/f16071068>.
- [8] A. A. Darise, I. Isnainar, A. Febriawan, V. I. Febriani, A. Buntu, and H. Mawaddah, "Karakteristik Morfologi Jenis-Jenis Mangrove di Kawasan Wisata Karosondaya Desa Sausu Tambu," *Biosci. J. Ilm. Biol.*, vol. 13, no. 2, pp. 1190–1199, 2025.
- [9] L. Amalia, R. Muthmainnah, R. Fajriani, and K. R. Permana, "Adaptasi Morfologi Akar Tumbuhan Mangrove Sejati Berdasarkan Zonasi Pantai," vol. 7, pp. 94–103, 2025.
- [10] R. Sapkota, R. H. Cheppally, A. Sharda, and M. Karkee, "RF-DETR Object Detection vs YOLOv12: A Study of Transformer-based and CNN-based Architectures for Single-Class and Multi-Class Greenfruit Detection in Complex Orchard Environments Under Label Ambiguity," *arXiv Prepr. arXiv2504.13099*, 2025.
- [11] A. Saleh, S. Hatano, and M. R. Azghadi, "Weed Detection in Challenging Field Conditions : A Semi-Supervised Framework for Overcoming Shadow Bias and Data Scarcity," *arXiv.org*, 2025.
- [12] A. Al Fahim, "Automated identification of plant disease using deep learning," *J. Biometry Stud.*, vol. 2, pp. 48–56, 2022, doi: 10.29329/JofBS.2022.445.02.
- [13] J. Jia, M. Fu, X. Liu, and B. Zheng, "Underwater Object Detection Based on Improved EfficientDet," *Remote Sens.*, vol. 14, no. 18, p. 4487, 2022, doi: <https://doi.org/10.3390/rs14184487>.
- [14] D. N. Huda, M. R. Romdoni, L. Safitri, A. Winarni, and A. Rahman, "Real-time Detection Transformer (RT-DETR) of Ornamental Fish Diseases with YOLOv9 using CNN (Convolutional Neural Network) Algorithm," *J. Appl.*

- Informatics Comput.*, vol. 8, no. 2, pp. 463–471, 2024, doi: <https://doi.org/10.30871/jaic.v8i2.8561>.
- [15] Z. Zou, K. Chen, Z. Shi, Y. Guo, and J. Ye, “Object Detection in 20 Years : A Survey,” *arXiv.org*, 2023.
 - [16] H. K. M *et al.*, “A Deep Learning–Based Ensemble System for Automated Shoulder Fracture Detection in Clinical Radiographs,” *arXiv.org*, pp. 1–12, 2025, [Online]. Available: <https://arxiv.org/abs/2507.13408>
 - [17] N. Giakoumoglou, E. Pechlivani, and N. Frangakis, “Enhancing Tuta absoluta Detection on Tomato Plants : Ensemble Techniques and Deep Learning,” *AI*, vol. 4, pp. 996–1009, 2023, doi: <https://doi.org/10.3390/ai4040050>.
 - [18] C. Systems, W. Rahmianar, H. Imam, K. Fathurrahman, A. Zatu, and K. Frisky, “Understanding of Convolutional Neural Network (CNN): A Review,” *Int. J. Robot. Control Syst.*, vol. 2, no. 4, pp. 739–748, 2022.
 - [19] S. K. and M. El-Sharkawv, “OBJECT DETECTION USING VISION TRANSFORMED,” *NAECON 2023 - IEEE Natl. Aerosp. Electron. Conf.*, no. August, pp. 214–220, 2023.
 - [20] M. Tan and Q. V. Le, “EfficientNet: Rethinking model scaling for convolutional neural networks,” *36th Int. Conf. Mach. Learn. ICML 2019*, vol. 2019-June, pp. 10691–10700, 2019.
 - [21] M. Tan, R. Pang, and Q. V Le, “EfficientDet: Scalable and Efficient Object Detection”.
 - [22] V. Dumoulin and F. Visin, “A guide to convolution arithmetic for deep learning,” pp. 1–31, 2018, [Online]. Available: <http://arxiv.org/abs/1603.07285>
 - [23] A. G. Howard *et al.*, “MobileNets: Efficient Convolutional Neural Networks for Mobile Vision Applications,” 2017, [Online]. Available: <http://arxiv.org/abs/1704.04861>
 - [24] F. Chollet, “Xception: Deep learning with depthwise separable convolutions,” *Proc. - 30th IEEE Conf. Comput. Vis. Pattern Recognition, CVPR 2017*, vol. 2017-Janua, pp. 1800–1807, 2017, doi: 10.1109/CVPR.2017.195.
 - [25] B. Zoph and Q. V Le, “Searching for activation functions,” *6th Int. Conf. Learn. Represent. ICLR 2018 - Work. Track Proc.*, pp. 1–13, 2018.
 - [26] T. Y. Lin, P. Goyal, R. Girshick, K. He, and P. Dollar, “Focal Loss for Dense Object Detection,” *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 42, no. 2, pp. 318–327, 2020, doi: 10.1109/TPAMI.2018.2858826.
 - [27] S. Ren, K. He, R. Girshick, and J. Sun, “Faster R-CNN: Towards Real-Time Object Detection with Region Proposal Networks,” *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 39, no. 6, pp. 1137–1149, 2017, doi: 10.1109/TPAMI.2016.2577031.
 - [28] A. R. Sajun and I. Zualkernan, “applied sciences A Historical Survey of Advances in Transformer Architectures,” 2024.
 - [29] I. Robinson, P. Robicheaux, M. Popov, D. Ramanan, and N. Peri, “RF-DETR: Neural Architecture Search for Real-Time Detection Transformers,” pp. 1–24, 2025, [Online]. Available: <http://arxiv.org/abs/2511.09554>
 - [30] M. Oquab *et al.*, “DINOv2: Learning Robust Visual Features without Supervision,” *Trans. Mach. Learn. Res.*, vol. 2024, pp. 1–32, 2024.

- [31] J. L. Ba, J. R. Kiros, and G. E. Hinton, "Layer Normalization," 2016, [Online]. Available: <http://arxiv.org/abs/1607.06450>
- [32] N. Carion, F. Massa, G. Synnaeve, N. Usunier, A. Kirillov, and S. Zagoruyko, "End-to-End Object Detection with Transformers," *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 12346 LNCS, pp. 213–229, 2020, doi: 10.1007/978-3-030-58452-8_13.
- [33] K. Mohiuddin *et al.*, "Attention Is All You Need," *Int. Conf. Inf. Knowl. Manag. Proc.*, no. Nips, pp. 4752–4758, 2023, doi: 10.1145/3583780.3615497.
- [34] A. Dosovitskiy *et al.*, "an Image Is Worth 16X16 Words: Transformers for Image Recognition At Scale," *ICLR 2021 - 9th Int. Conf. Learn. Represent.*, 2021.
- [35] X. Zhu, W. Su, L. Lu, B. Li, X. Wang, and J. Dai, "Deformable Detr: Deformable Transformers for End-To-End Object Detection," *ICLR 2021 - 9th Int. Conf. Learn. Represent.*, pp. 1–16, 2021.
- [36] H. Rezatofighi, N. Tsoi, J. Gwak, A. Sadeghian, I. Reid, and S. Savarese, "Generalized intersection over union: A metric and a loss for bounding box regression," *Proc. IEEE Comput. Soc. Conf. Comput. Vis. Pattern Recognit.*, vol. 2019-June, pp. 658–666, 2019, doi: 10.1109/CVPR.2019.00075.
- [37] R. Solovyev, W. Wang, and T. Gabruseva, "Weighted boxes fusion : Ensembling boxes from different object detection models," *arXiv.org*, 2021.
- [38] N. Bodla, B. Singh, R. Chellappa, and L. S. Davis, "Soft-NMS - Improving Object Detection with One Line of Code," *Proc. IEEE Int. Conf. Comput. Vis.*, vol. 2017-Octob, pp. 5562–5570, 2017, doi: 10.1109/ICCV.2017.593.
- [39] R. Padilla, W. L. Passos, S. L. Netto, and E. A. B. Silva, "A Comparative Analysis of Object Detection Metrics with a Companion Open-Source Toolkit," 2021.
- [40] B. Vrigazova, "The Proportion for Splitting Data into Training and Test Set for the Bootstrap in Classification Problems," *Bus. Syst. Res.*, vol. 12, no. 1, pp. 228–242, 2021, doi: 10.2478/bsrj-2021-0015.
- [41] S. Park, Y. Zhang, S. X. Yu, S. Beery, and J. Huang, "Visually Consistent Hierarchical Image Classification," pp. 1–23, 2025.