

DAFTAR PUSTAKA

- A Ilemobayo, J., Durodola, O., Alade, O., J Awotunde, O., T Olanrewaju, A., Falana, O., Ogungbire, A., Osinuga, A., Ogunbiyi, D., Ifeanyi, A., E Odezuligbo, I., & E Edu, O. (2024). Hyperparameter Tuning in Machine Learning: A Comprehensive Review. *Journal of Engineering Research and Reports*, 26(6), 388–395. <https://doi.org/10.9734/jerr/2024/v26i61188>
- Alfath Zulkarnain, I., & Kusriani. (2025). *Optimasi Yolov11 Melalui Hyperparameter Tuning dan Data Augmentasi untuk Meningkatkan Akurasi Deteksi Kendaraan pada Kondisi Malam Hari*. 5, 1294–1303. <https://doi.org/10.57152/malcom.v5i4.2250>
- Arifianto, T. (2023). Deteksi Kecacatan Permukaan Rel Menggunakan Metode Deep Learning Neural Network. *Jurnal Informatika dan Teknologi*, 6(1). <https://doi.org/10.29408/jit.v6i1.7415>
- Bhatt, D., Patel, C., Talsania, H., Patel, J., Vaghela, R., Pandya, S., Modi, K., & Ghayvat, H. (2021). Cnn variants for computer vision: History, architecture, application, challenges and future scope. Dalam *Electronics (Switzerland)* (Vol. 10, Nomor 20). MDPI. <https://doi.org/10.3390/electronics10202470>
- Bosquet, B., Mucientes, M., & Brea, V. M. (2021). STDnet-ST: Spatio-temporal ConvNet for small object detection. *Pattern Recognition*, 116. <https://doi.org/10.1016/j.patcog.2021.107929>
- Diwan, T., Anirudh, G., & Tembhone, J. V. (2023). Object detection using YOLO: challenges, architectural successors, datasets and applications. *Multimedia Tools and Applications*, 82(6), 9243–9275. <https://doi.org/10.1007/s11042-022-13644-y>
- Dwiatmoko, H., Supriyatno, D., & Mudjanarko, W. (2020). International Journal of Sustainable Construction Engineering and Technology The Role of Railway Infrastructure Development on the Regional Economic Growth. *INTERNATIONAL JOURNAL OF SUSTAINABLE CONSTRUCTION*

ENGINEERING AND TECHNOLOGY, 11(1), 125–135.
<https://doi.org/10.30880/ijscet.2020.11.01.013>

Eunus, S. I., Hossain, S., Ridwan, A. E. M., Adnan, A., Islam, M. S., Karim, D. Z., Alam, G. R., & Uddin, J. (2024). ECARRNet: An Efficient LSTM-Based Ensembled Deep Neural Network Architecture for Railway Fault Detection. *AI (Switzerland)*, 5(2), 482–503. <https://doi.org/10.3390/ai5020024>

Gong, W., Akbar, M. F., Jawad, G. N., Mohamed, M. F. P., & Wahab, M. N. A. (2022). Nondestructive Testing Technologies for Rail Inspection: A Review. Dalam *Coatings* (Vol. 12, Nomor 11). MDPI. <https://doi.org/10.3390/coatings12111790>

He, L. H., Zhou, Y. Z., Liu, L., Cao, W., & Ma, J. H. (2025). Research on object detection and recognition in remote sensing images based on YOLOv11. *Scientific Reports*, 15(1). <https://doi.org/10.1038/s41598-025-96314-x>

He, L., Zhou, Y., Liu, L., & Ma, J. (2024). Research and Application of YOLOv11-Based Object Segmentation in Intelligent Recognition at Construction Sites. *Buildings*, 14(12). <https://doi.org/10.3390/buildings14123777>

Jegham, N., Koh, C. Y., Abdelatti, M., & Hendawi, A. (2024). *YOLO Evolution: A Comprehensive Benchmark and Architectural Review of YOLOv12, YOLO11, and Their Previous Versions*. <http://arxiv.org/abs/2411.00201>

Ji, A., Woo, W. L., Wong, E. W. L., & Quek, Y. T. (2021). Rail track condition monitoring: a review on deep learning approaches. Dalam *Intelligence and Robotics* (Vol. 1, Nomor 2, hlm. 151–175). OAE Publishing Inc. <https://doi.org/10.20517/ir.2021.14>

Khan, A. I., & Al-Habsi, S. (2020). Machine Learning in Computer Vision. *Procedia Computer Science*, 167, 1444–1451. <https://doi.org/10.1016/j.procs.2020.03.355>

Kim, K., Lazarou, M., & Stathaki, T. (2025). *Enhanced Detection of Tiny Objects in Aerial Images*. <http://arxiv.org/abs/2509.17078>

- Kou, L. (2022). A Review of Research on Detection and Evaluation of the Rail Surface Defects. Dalam *Acta Polytechnica Hungarica* (Vol. 19, Nomor 3).
- Kumar, A., & Harsha, S. P. (2024). A systematic literature review of defect detection in railways using machine vision-based inspection methods. Dalam *International Journal of Transportation Science and Technology*. KeAi Communications Co. <https://doi.org/10.1016/j.ijst.2024.06.006>
- Mohan, K. K., Raghava Prasad, C. H., & Kishore, P. V. V. (2021). YOLO V2 WITH BIFOLD SKIP: A DEEP LEARNING MODEL FOR VIDEO BASED REAL TIME TRAIN BOGIE PART IDENTIFICATION AND DEFECT DETECTION. Dalam *Journal of Engineering Science and Technology* (Vol. 16, Nomor 3).
- Mordia, R., & Kumar Verma, A. (2022). Fault Diagnosis in Railway Track using Efficient Net based CNN. *Ymer*. <https://doi.org/https://doi.org/10.37896/YMER21.07/87>
- Padilla, R., Netto, S. L., Da Silva, E. A. B., & Netto, S. L. (t.t.). *A Survey on Performance Metrics for Object-Detection Algorithms*. <https://doi.org/10.1109/IWSSIP48289.2020>
- Qian, Y., Liu, C., Yuan, Y., Xu, J., Wang, P., & Wang, K. (2025). Numerical characterization and formation process study of rail light bands in high-speed turnout areas. *Engineering Failure Analysis*, 168, 109083. <https://doi.org/10.1016/J.ENGFAILANAL.2024.109083>
- Rodríguez-Abreo, O., Quiroz-Juárez, M. A., Macías-Socarras, I., Rodríguez-Reséndiz, J., Camacho-Pérez, J. M., Carcedo-Rodríguez, G., & Camacho-Pérez, E. (2025). Automatic Detection of Railway Faults Using Neural Networks: A Comparative Study of Transfer Learning Models and YOLOv11. *Infrastructures*, 10(1). <https://doi.org/10.3390/infrastructures10010003>
- Saritas, M. M., Selim Taspınar, Y., Cinar, I., Koklu, M., & Saritas, M. M. (2023, April). Railway Track Fault Detection with ResNet Deep Learning Models.

International Conference on Intelligent Systems and New Applications (ICISNA '23). <https://www.researchgate.net/publication/370599799>

Sinha, S., Ohashi, H., & Nakamura, K. (2022). Class-Difficulty Based Methods for Long-Tailed Visual Recognition. *International Journal of Computer Vision*. <https://doi.org/10.1007/s11263-022-01643-3>

Sohan, M., Sai Ram, T., & Rami Reddy, Ch. V. (2024). *A Review on YOLOv8 and Its Advancements* (hlm. 529–545). https://doi.org/10.1007/978-981-99-7962-2_39

Terven, J., Córdova-Esparza, D. M., & Romero-González, J. A. (2023). A Comprehensive Review of YOLO Architectures in Computer Vision: From YOLOv1 to YOLOv8 and YOLO-NAS. Dalam *Machine Learning and Knowledge Extraction* (Vol. 5, Nomor 4, hlm. 1680–1716). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/make5040083>

Trigka, M., & Dritsas, E. (2025). A Comprehensive Survey of Machine Learning Techniques and Models for Object Detection. *Sensors*, 25(1), 214. <https://doi.org/10.3390/s25010214>

Wang, Y., Zhang, K., Wang, L., & Wu, L. (2024). An Improved YOLOv8 Algorithm for Rail Surface Defect Detection. *IEEE Access*, 12, 44984–44997. <https://doi.org/10.1109/ACCESS.2024.3380009>

Wei, X., Li, Z., & Wang, Y. (2025). SED-YOLO based multi-scale attention for small object detection in remote sensing. *Scientific Reports*, 15(1). <https://doi.org/10.1038/s41598-025-87199-x>

Xiong, L., Jing, G., Wang, J., Liu, X., & Zhang, Y. (2023). Detection of Rail Defects Using NDT Methods. Dalam *Sensors* (Vol. 23, Nomor 10). MDPI. <https://doi.org/10.3390/s23104627>

Yan, L., Qin, Y., & Chen, J. (2023). Scale-Balanced Real-Time Object Detection With Varying Input-Image Resolution. *IEEE Transactions on Circuits and Systems for Video Technology*, 33(1), 242–256. <https://doi.org/10.1109/TCSVT.2022.3198329>

Zhang, C., Xu, D., Zhang, L., & Deng, W. (2023). Rail Surface Defect Detection Based on Image Enhancement and Improved YOLOX. *Electronics (Switzerland)*, 12(12). <https://doi.org/10.3390/electronics12122672>

Zhao, Y., Liu, Z., Yi, D., Yu, X., Sha, X., Li, L., Sun, H., Zhan, Z., & Li, W. J. (2022). A Review on Rail Defect Detection Systems Based on Wireless Sensors. Dalam *Sensors* (Vol. 22, Nomor 17). MDPI. <https://doi.org/10.3390/s22176409>