

REFERENCES

- Ali, A., Saikia, K., Nayak, B., Kumar, P., & Muchahari, M. Kr. (2021). Augmented Reality Based Online Application for E-Shopping. *International Journal of Advanced Research in Engineering and Technology (IJARET)*, 12(3), 212–232. <https://doi.org/10.34218/IJARET.12.3.2021.022>
- Alzubaidi, L., Zhang, J., Humaidi, A. J., Al-Dujaili, A., Duan, Y., Al-Shamma, O., Santamaría, J., Fadhel, M. A., 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>
- Amit, Y., Felzenszwalb, P. F., & Girshick, R. (2021). Object Detection. *Springer EBooks*, 875–883. https://doi.org/10.1007/978-3-030-63416-2_660
- Anwar, A. (2022, May 13). *What is average precision in object detection & localization algorithms and how to calculate it?* Medium; Towards Data Science. <https://towardsdatascience.com/what-is-average-precision-in-object-detection-localization-algorithms-and-how-to-calculate-it-3f330efe697b>
- Badan Pusat Statistik Provinsi Bali. (2023, February 21). *Jumlah Kendaraan Bermotor Menurut Kabupaten/Kota dan Jenis Kendaraan di Provinsi Bali (unit)*, 2022. Badan Pusat Statistik. <https://bali.bps.go.id/id/statistics-table/3/VjJ3NGRGa3dkRk5MTlU1bVNFOTVVBmQyVURSTVFUMDkjMw==/jumlah-kendaraan-bermotor-menurut-kabupaten-kota-dan-jenis-kendaraan-di-provinsi-bali--unit---2022.html?year=2022>
- Badan Pusat Statistik Provinsi Bali. (2024, February 15). *Banyaknya Kendaraan Menurut Jenisnya di Provinsi Bali (Unit)*, 2023. Badan Pusat Statistik. <https://bali.bps.go.id/id/statistics-table/2/MjUwIzI=/banyaknya-kendaraan-menurut-jenisnya-dan-kabupaten-kota-di-provinsi-bali.html>
- Bento, J., Paixão, T., & Alvarez, A. B. (2025). Performance Evaluation of YOLOv8, YOLOv9, YOLOv10, and YOLOv11 for Stamp Detection in Scanned Documents. *Applied Sciences*, 15(6), 3154. <https://doi.org/10.3390/app15063154>
- Casas, S., Agro, B., Mao, J., Gilles, T., Cui, A., Li, T., & Urtasun, R. (2024). DeTra: A Unified Model for Object Detection and Trajectory Forecasting. *Lecture Notes in Computer Science*, 326–342. https://doi.org/10.1007/978-3-031-73223-2_19
- Chahal, K. S., & Dey, K. (2018, August 22). *A Survey of Modern Object Detection Literature using Deep Learning*. ArXiv.org. <https://doi.org/10.48550/arXiv.1808.07256>

- Chugh, V. (2023, January 19). *Precision-Recall Curve in Python Tutorial*. Datacamp.com; DataCamp. <https://www.datacamp.com/tutorial/precision-recall-curve-tutorial>
- COCO Dataset. (n.d.). *COCO - Common Objects in Context*. Cocodataset.org. Retrieved December 1, 2024, from <https://cocodataset.org/>
- Everingham, M., Eslami, S. M. A., Van Gool, L., Williams, C. K. I., Winn, J., & Zisserman, A. (2014). The Pascal Visual Object Classes Challenge: A Retrospective. *International Journal of Computer Vision*, 111(1), 98–136. <https://doi.org/10.1007/s11263-014-0733-5>
- Faza, S., Rahmat, R. F., Anugrahwaty, R., Wong, J., & Nadi, F. (2024). Deep Learning-Driven Car Parking Space Detection: A YOLOR Approach. *Journal of Theoretical and Applied Information Technology*, 102(16), 6217–6227.
- Fu, P., & Wang, J. (2024). Lithology Identification Based on Improved Faster R-CNN. *Minerals*, 14(9), 954. <https://doi.org/10.3390/min14090954>
- Gad, A. F. (2020, November 13). *Faster R-CNN Explained for Object Detection Tasks*. Digitalocean.com; DigitalOcean. <https://www.digitalocean.com/community/tutorials/faster-r-cnn-explained-object-detection#faster-r-cnn>
- Gao, D. (2024). Automatic target detection in vehicle images based on YOLOv10 deep learning algorithm. *Applied and Computational Engineering*, 88(1), 171–178. <https://doi.org/10.54254/2755-2721/88/20241676>
- GeeksforGeeks. (2020, February 27). *Faster R-CNN | ML*. GeeksforGeeks. <https://www.geeksforgeeks.org/faster-r-cnn-ml/>
- Geetha, A. S., Rabbani, A., Hussain, M., & Allen, P. (2024). Comparative Analysis of YOLOv8 and YOLOv10 in Vehicle Detection: Performance Metrics and Model Efficacy. *Vehicles*, 6(3), 1364–1382. <https://doi.org/10.3390/vehicles6030065>
- Holleman, M. (2018, June 9). *One-stage object detection*. Machinethink.net. <https://machinethink.net/blog/object-detection/>
- Holm, E. A., Cohn, R., Gao, N., Kitahara, A. R., Matson, T. P., Lei, B., & Yarasi, S. R. (2020). Overview: Computer Vision and Machine Learning for Microstructural Characterization and Analysis. *Metallurgical and Materials Transactions 50th Anniversary*, 51(12), 5985–5999. <https://doi.org/10.1007/s11661-020-06008-4>
- Janiesch, C., Zschech, P., & Heinrich, K. (2021). Machine learning and deep learning. *Electronic Markets*, 31(31), 685–695. Springer. <https://doi.org/10.1007/s12525-021-00475-2>

- Jegham, N., Koh, C. Y., Abdelatti, M., & Hendawi, A. (2024). Evaluating the Evolution of YOLO (You Only Look Once) Models: A Comprehensive Benchmark Study of YOLO11 and Its Predecessors. *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.2411.00201>
- Joseph, R., Santosh, D., Ross, G., & Ali, F. (2016). You Only Look Once: Unified, Real-Time Object Detection. *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.1506.02640>
- Kemendikbud. (2019). *KBBI Daring*. Kemdikbud.go.id. <https://kbbi.kemdikbud.go.id/>
- Khanam, R., & Hussain, M. (2024). YOLOv11: An Overview of the Key Architectural Enhancements. *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.2410.17725>
- LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep Learning. *Nature*, 521(7553), 436–444. <https://doi.org/10.1038/nature14539>
- Li, Z., Liu, F., Yang, W., Peng, S., & Zhou, J. (2021). A Survey of Convolutional Neural Networks: Analysis, Applications, and Prospects. *IEEE Transactions on Neural Networks and Learning Systems*, 33(12), 1–21. <https://doi.org/10.1109/tnnls.2021.3084827>
- Lin, T.-Y., Piotr Dollár, Girshick, R., He, K., Hariharan, B., & Belongie, S. (2016). Feature Pyramid Networks for Object Detection. *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.1612.03144>
- Lumenalta. (2024). *What is deep learning | Understanding deep learning and its benefits | Lumenalta*. Lumenalta. <https://lumenalta.com/insights/what-is-deep-learning>
- Machine Learning Space. (2023, January 30). *Intersection over Union (IoU): A comprehensive guide*. Machine Learning Space. <https://machinelearning.space.com/intersection-over-union-iou-a-comprehensive-guide>
- Mathew, A., Amudha, P., & Sivakumari, S. (2020). Deep Learning Techniques: An Overview. *Advances in Intelligent Systems and Computing*, 1141, 599–608. https://doi.org/10.1007/978-981-15-3383-9_54
- Minaee, S., Boykov, Y., Porikli, F., Plaza, A., Kehtarnavaz, N., & Terzopoulos, D. (2020). Image Segmentation Using Deep Learning: A Survey. *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.2001.05566>
- Mukherjee, S. (2024, August 9). *YOLOv10: Advanced Real-Time End-to-End Object Detection*. Paperspace.com; DigitalOcean. <https://blog.paperspace.com/yolov10-advanced-real-time-end-to-end-object-detection>

- Nurul, A., Kaloko, B. S., Anam, K., Sasono, H., & Yusril Efendi, D. (2025). Navigation System of Electric Car with Faster R-CNN for Pediatric Patient Transportation. *Jurnal ILMU DASAR*, 26(1), 26–36. <https://doi.org/10.19184/jid.v26i1.4615>
- PUSDATIN. (2015). *Jaringan Dokumentasi dan Informasi Hukum Kementerian Perhubungan Republik Indonesia*. Kemenhub.go.id. <https://jdih.kemenhub.go.id/peraturan/detail?data=BFNrpxO22mp7frGqEa r66U8hkTwKPSCr18gls5JyZfPf4eaUoXFNuex8QmGHuF2JNo4ubOXgd QbkC8bMhA3xCill4jmmCjCoziA4jvoGJwwAhn2BFa0aymVi5AdhjTNM dtn940RxOEpw5VhFKHEY8t9lh3>
- Rainio, O., Teuho, J., & Klén, R. (2024). Evaluation metrics and statistical tests for machine learning. *Scientific Reports*, 14(1), 1–14. Nature. <https://doi.org/10.1038/s41598-024-56706-x>
- Rastogi, R. (2023, September 20). *Papers Explained 21: Feature Pyramid Network*. DAIR.AI. <https://medium.com/dair-ai/papers-explained-21-feature-pyramid-network-6baebcb7e4b8>
- Rawat, W., & Wang, Z. (2017). Deep Convolutional Neural Networks for Image Classification: A Comprehensive Review. *Neural Computation*, 29(9), 2352–2449. https://doi.org/10.1162/neco_a_00990
- Ren, S., He, K., Girshick, R., & Sun, J. (2017). Faster R-CNN: Towards Real-Time Object Detection with Region Proposal Networks. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 39(6), 1137–1149. <https://doi.org/10.1109/tpami.2016.2577031>
- Sa, N. G. de, Dantas, D. O., & Silva, G. J. F. da. (2024). Glaucoma Detection Using Transfer Learning with the Faster R-CNN Model and a ResNet-50-FPN Backbone. *Proceedings of the 26th International Conference on Enterprise Information Systems (ICEIS 2024)*, 1, 837–844. <https://doi.org/10.5220/0012706500003690>
- Sapkota, R., Qureshi, R., Calero, M. F., Badjugar, C., Nepal, U., Poulouse, A., Zeno, P., Vaddevolu, U. B. P., Yan, H., & Karkee, M. (2024, July 1). *YOLOv10 to Its Genesis: A Decadal and Comprehensive Review of The You Only Look Once Series*. ArXiv.org. <https://doi.org/10.48550/arXiv.2406.19407>
- Sinha, G. (2020, August 10). *Deep Learning method for object detection: R-CNN explained*. Medium. <https://towardsdatascience.com/deep-learning-method-for-object-detection-r-cnn-explained-eecdadd751d22>
- Tavakoli, M. J., Fazl, F., Sedighi, M., Naseri, K., Ghavami, M., & Taghipour-Gorjikolaie, M. (2025). Enhancing Pharmacy Warehouse Management With Faster R-CNN for Accurate and Reliable Pharmaceutical Product Identification and Counting. *International Journal of Intelligent Systems*, 2025(1). <https://doi.org/10.1155/int/8883735>

- Voulodimos, A., Doulamis, N., Doulamis, A., & Protopapadakis, E. (2018). Deep Learning for Computer Vision: a Brief Review. *Computational Intelligence and Neuroscience*, 2018(1), 1–13. <https://doi.org/10.1155/2018/7068349>
- Vujovic, Ž. Đ. (2021). Classification Model Evaluation Metrics. *International Journal of Advanced Computer Science and Applications*, 12(6). <https://doi.org/10.14569/ijacsa.2021.0120670>
- Wang, A., Chen, H., Liu, L., Chen, K., Lin, Z., Han, J., & Ding, G. (2024, May 23). *YOLOv10: Real-Time End-to-End Object Detection*. ArXiv.org. <https://doi.org/10.48550/arXiv.2405.14458>
- Wang, C.-Y., & Liao, H.-Y. M. (2024). YOLOv1 to YOLOv10: The Fastest and Most Accurate Real-time Object Detection Systems. *APSIPA Transactions on Signal and Information Processing*, 13(1). <https://doi.org/10.1561/116.20240058>
- Yang, Y. (2024). Vehicle Target Detection Algorithm Based on Improved Faster R-CNN for Remote Sensing Images. *Journal of Artificial Intelligence Practice*, 7(1). <https://doi.org/10.23977/jaip.2024.070105>
- Yusfian, M. H., Setianingsih, C., & Astuti, R. (2022). Deteksi Pelanggaran Parkir Pada Bahu Jalan Tol Dengan Intelligent Transportation System Menggunakan Algoritma Yolo. *EProceedings of Engineering*, 9(3), 1064–1069. <https://openlibrarypublications.telkomuniversity.ac.id/index.php/engineering/article/view/17957>
- Zou, Z., Chen, K., Shi, Z., Guo, Y., & Ye, J. (2023). Object Detection in 20 Years: A Survey. *Proceedings of the IEEE*, 111(3), 1–20. <https://doi.org/10.1109/JPROC.2023.3238524>