



## DAFTAR PUSTAKA

- Adrian, R., 2017. *Deep Learning for Computer Vision with Python – Starter Bundle*. PyImageSearch.
- Adrian, R., 2017. *Deep Learning for Computer Vision with Python – Practitioner Bundle*. PyImageSearch.
- Arbain, A.A., Sunarto, F., Mulyana, E., 2018. *DETEKSI ES DAN HAIL DI ATMOSFER DENGAN RADAR POLARIMETRIK X-BAND FURUNO WR-2100 (STUDI KASUS: 24 JANUARI DAN 14 FEBRUARI 2016)*. J. Sains Teknol. Modif. Cuaca 19, 21. <https://doi.org/10.29122/jstmc.v19i1.2994>
- Bahtiyar, A.D.R., Hoyyi, A., Yasin, H., 2014. *ORDINARY KRIGING DALAM ESTIMASI CURAH HUJAN DI KOTA SEMARANG* 3, 9.
- Boujemaa, K.S., Bouhoute, A., Boubouh, K., Berrada, I., n.d. *Traffic sign recognition using convolutional neural networks* 6.
- Brownlee, J., 2019. *A Gentle Introduction to the Rectified Linear Unit (ReLU)*. Mach. Learn. Mastery. URL <https://machinelearningmastery.com/rectified-linear-activation-function-for-deep-learning-neural-networks/> (accessed 7.1.21).
- Convolutional Neural Network untuk Pengenalan Wajah Secara Real-Time.pdf*, n.d.
- Dabai, J., n.d. *Explain YOLOv5 in a simple way - Programmer Sought* [WWW Document]. URL <https://www.programmersought.com/article/20545272716/> (accessed 7.2.21).
- Dewi, C., Muslikh, M., 2013. *Perbandingan Akurasi Backpropagation Neural Network dan ANFIS Untuk Memprediksi Cuaca* 1, 7.
- Djafri, A., Haddad, B., 2014. *CLASSIFICATION OF CONVECTIVE AND STRATIFORM CELLS IN METEOROLOGICAL RADAR IMAGES USING SVM BASED ON A TEXTURAL ANALYSIS*. Comput. Sci. 7.
- Farag, W., Saleh, Z., 2018. *Traffic Signs Identification by Deep Learning for Autonomous Driving*, in: *Smart Cities Symposium 2018*. Presented at the Smart Cities Symposium 2018, Institution of Engineering and Technology, Bahrain, Bahrain, p. 14 (6 pp.)-14 (6 pp.). <https://doi.org/10.1049/cp.2018.1382>
- Fawcett, T., 2006. *An introduction to ROC analysis*. Pattern Recognit. Lett. 27, 861–874. <https://doi.org/10.1016/j.patrec.2005.10.010>
- Fikriya, Z.A., Irawan, M.I., Soetrisno., S., 2017. *Implementasi Extreme Learning Machine untuk Pengenalan Objek Citra Digital*. J. Sains Dan Seni ITS 6, 12–17. <https://doi.org/10.12962/j23373520.v6i1.21754>
- Gagne, D.J., McGovern, A., Brotzge, J., 2009. *Classification of Convective Areas Using Decision Trees*. J. Atmospheric Ocean. Technol. 26, 1341–1353. <https://doi.org/10.1175/2008JTECHA1205.1>
- Ghoneim, S., 2019. *Accuracy, Recall, Precision, F-Score & Specificity, which to optimize on?* [WWW Document]. Medium. URL



- <https://towardsdatascience.com/accuracy-recall-precision-f-score-specificity-which-to-optimize-on-867d3f11124> (accessed 7.2.21).
- He, K., Zhang, X., Ren, S., Sun, J., 2014. *Spatial Pyramid Pooling in Deep Convolutional Networks for Visual Recognition*. ArXiv14064729 Cs 8691, 346–361. [https://doi.org/10.1007/978-3-319-10578-9\\_23](https://doi.org/10.1007/978-3-319-10578-9_23)
- Hui, J., 2019. *mAP (mean Average Precision) for Object Detection [WWW Document]*. Medium. URL <https://jonathan-hui.medium.com/map-mean-average-precision-for-object-detection-45c121a31173> (accessed 7.2.21).
- Huilgol, P., 2019. *Accuracy vs. F1-Score [WWW Document]*. Medium. URL <https://medium.com/analytics-vidhya/accuracy-vs-f1-score-6258237beca2> (accessed 7.2.21).
- Ioffe, S., Szegedy, C., 2015. *Batch Normalization: Accelerating Deep Network Training by Reducing Internal Covariate Shift*. ArXiv150203167 Cs.
- Irawan, M.J., Sudiana, D., 2013. *Analisis Perbandingan Sistem Pengenalan Rambu-Rambu Lalu Lintas Menggunakan Metode Generative Learning dan Support Vector Machine* 18.
- Kementrian Perhubungan Republik Indonesia, 2014. *Peraturan Menteri Perhubungan Republik Indonesia Nomor 13 Tahun 2014: Rambu Lalu Lintas*. Indonesia, Indonesia.
- Lau, M.M., Lim, K.H., Gopalai, A.A., 2015. *Malaysia traffic sign recognition with convolutional neural network*, in: 2015 IEEE International Conference on Digital Signal Processing (DSP). Presented at the 2015 IEEE International Conference on Digital Signal Processing (DSP), IEEE, Singapore, Singapore, pp. 1006–1010. <https://doi.org/10.1109/ICDSP.2015.7252029>
- Li, C., Yang, C., 2016. *The research on traffic sign recognition based on deep learning*, in: 2016 16th International Symposium on Communications and Information Technologies (ISCIT). Presented at the 2016 16th International Symposium on Communications and Information Technologies (ISCIT), IEEE, Qingdao, China, pp. 156–161. <https://doi.org/10.1109/ISCIT.2016.7751612>
- Liu, H., Chandrasekar, V., 2000. *Classification of Hydrometeors Based on Polarimetric Radar Measurements: Development of Fuzzy Logic and Neuro-Fuzzy Systems, and In Situ Verification*. J. ATMOSPHERIC Ocean. Technol. 17, 25.
- Liu, S., Qi, L., Qin, H., Shi, J., Jia, J., 2018. *Path Aggregation Network for Instance Segmentation*. ArXiv180301534 Cs.
- Mao, Q.-C., Sun, H.-M., Liu, Y.-B., Jia, R.-S., 2019. *Mini-YOLOv3: Real-Time Object Detector for Embedded Applications*. IEEE Access 7, 133529–133538. <https://doi.org/10.1109/ACCESS.2019.2941547>
- Mulyanto, A., Borman, R.I., Prasetyawan, P., Jatmiko, W., Mursanto, P., Sinaga, A., 2020. *Indonesian Traffic Sign Recognition For Advanced Driver Assistant (ADAS) Using YOLOv4*, in: 2020 3rd International Seminar on Research of Information Technology and Intelligent Systems (ISRITI). Presented at the 2020 3rd International Seminar on Research of Information Technology and Intelligent Systems (ISRITI), IEEE,



- Yogyakarta, Indonesia, pp. 520–524.  
<https://doi.org/10.1109/ISRITI51436.2020.9315368>
- Padilla, R., Passos, W.L., Dias, T.L.B., Netto, S.L., da Silva, E.A.B., 2021. *A Comparative Analysis of Object Detection Metrics with a Companion Open-Source Toolkit*. *Electronics* 10, 279.  
<https://doi.org/10.3390/electronics10030279>
- Rahmad, C., Rahmah, I.F., Asmara, R.A., Adhisuwignjo, S., 2018. *Indonesian traffic sign detection and recognition using color and texture feature extraction and SVM classifier*, in: 2018 International Conference on Information and Communications Technology (ICOIACT). Presented at the 2018 International Conference on Information and Communications Technology (ICOIACT), IEEE, Yogyakarta, pp. 50–55.  
<https://doi.org/10.1109/ICOIACT.2018.8350804>
- Rahmadya, 2017. *Epoch, Iteration, dan Stop Condition*. *Rahmadya Trias Handayanto*. URL <https://rahmadya.com/2017/10/23/epoch-iteration-dan-stop-condition/> (accessed 7.2.21).
- Redmon, J., Divvala, S., Girshick, R., Farhadi, A., 2016. *You Only Look Once: Unified, Real-Time Object Detection*. ArXiv150602640 Cs.
- Redmon, J., Farhadi, A., 2018. *YOLOv3: An Incremental Improvement*. ArXiv180402767 Cs.
- Shung, K.P., 2020. *Accuracy, Precision, Recall or F1?* [WWW Document]. Medium. URL <https://towardsdatascience.com/accuracy-precision-recall-or-f1-331fb37c5cb9> (accessed 7.2.21).
- Upulie Handalage, Lakshini Kuganandamurthy, 2021. *Real-Time Object Detection using YOLO: A review*.  
<https://doi.org/10.13140/RG.2.2.24367.66723>
- Wang, C., 2018. *Research and Application of Traffic Sign Detection and Recognition Based on Deep Learning*, in: 2018 International Conference on Robots & Intelligent System (ICRIS). Presented at the 2018 International Conference on Robots & Intelligent System (ICRIS), IEEE, Changsha, China, pp. 150–152. <https://doi.org/10.1109/ICRIS.2018.00047>
- Wang, C.-Y., Liao, H.-Y.M., Yeh, I.-H., Wu, Y.-H., Chen, P.-Y., Hsieh, J.-W., 2019. *CSPNet: A New Backbone that can Enhance Learning Capability of CNN*. ArXiv191111929 Cs.
- Xu, R., Lin, H., Lu, K., Cao, L., Liu, Y., 2021. *A Forest Fire Detection System Based on Ensemble Learning*. *Forests* 12, 217.  
<https://doi.org/10.3390/f12020217>
- Yang, Y., Chen, X., Qi, Y., 2013. *Classification of convective/stratiform echoes in radar reflectivity observations using a fuzzy logic algorithm: PRECIPITATION CLASSIFICATION FROM RADAR*. *J. Geophys. Res. Atmospheres* 118, 1896–1905. <https://doi.org/10.1002/jgrd.50214>
- Yasmina, D., Karima, R., Ouahiba, A., 2018. *Traffic signs recognition with deep learning*, in: 2018 International Conference on Applied Smart Systems (ICASS). Presented at the 2018 International Conference on Applied Smart Systems (ICASS), IEEE, Medea, Algeria, pp. 1–5.  
<https://doi.org/10.1109/ICASS.2018.8652024>