

DAFTAR PUSTAKA

- Abadi, M., Barham, P., Chen, J., Chen, Z., Davis, A., Dean, J., Devin, M., Ghemawat, S., Irving, G., Isard, M., Kudlur, M., Levenberg, J., Monga, R., Moore, S., Murray, D. G., Steiner, B., Tucker, P., Vasudevan, V., Warden, P., ... Zheng, X. (2016). *TensorFlow: A system for large-scale machine learning*. 21.
- Aerial Photography and Image Interpretation. (2012). In D. P. Paine & J. D. Kiser, *Aerial Photography and Image Interpretation* (pp. i–xii). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118110997.fmatter>
- Alonzo, M., Bookhagen, B., & Roberts, D. A. (2014). Urban tree species mapping using hyperspectral and lidar data fusion. *Remote Sensing of Environment*, 14.
- Anderson, J. R. (1976). *A land use and land cover classification system for use with remote sensor data* (Vol. 964). US Government Printing Office.
- Arrofiqoh, E. N., & Harintaka, H. (2018). IMPLEMENTASI METODE CONVOLUTIONAL NEURAL NETWORK UNTUK KLASIFIKASI TANAMAN PADA CITRA RESOLUSI TINGGI. *GEOMATIKA*, 24(2), 61. <https://doi.org/10.24895/JIG.2018.24-2.810>
- Arrofiqoh, Erlyna Nour. (2018). *OTOMATISASI EKSTRAKSI FITUR BANGUNAN DENGAN MEMANFAATKAN METODE DEEP LEARNING UNTUK INTERPRETASI CITRA SATELIT RESOLUSI TINGGI*. Universitas Gadjah Mada.
- Ayrey, E., & Hayes, D. (2018). The Use of Three-Dimensional Convolutional Neural Networks to Interpret LiDAR for Forest Inventory. *Remote Sensing*, 10(4), 649. <https://doi.org/10.3390/rs10040649>
- Bahtera Negara, T. (2021). *DEEP LEARNING BERBASIS CONVOLUTIONAL NEURAL NETWORK (CNN) UNTUK SEGMENTASI SEMANTIK BANGUNAN PADA FOTO UDARA UNMANNED AERIAL VEHICLE (UAV)*.

- Bisong, E. (2019). Google Colaboratory. In E. Bisong (Ed.), *Building Machine Learning and Deep Learning Models on Google Cloud Platform: A Comprehensive Guide for Beginners* (pp. 59–64). Apress.
https://doi.org/10.1007/978-1-4842-4470-8_7
- Boyagoda, Ekanayaka Mudiyanse Ralahamilage Chamodi Lakmali. (2020). *OBJECT DETECTION FOR SINGLE TREE SPECIES IDENTIFICATION WITH HIGH RESOLUTION AERIAL IMAGES*. Universidade Nova de Lisboa.
- Carlsson, D., & Lundberg, J. (2020). *Tree trunk image classifier*. 65.
- Chang, T., Rasmussen, B., Dickson, B., & Zachmann, L. (2019). Chimera: A Multi-Task Recurrent Convolutional Neural Network for Forest Classification and Structural Estimation. *Remote Sensing*, 11(7), 768.
<https://doi.org/10.3390/rs11070768>
- Coomes, D. A., Dalponte, M., Jucker, T., Asner, G. P., Banin, L. F., Burslem, D. F. R. P., Lewis, S. L., Nilus, R., Phillips, O. L., Phua, M.-H., & Qie, L. (2017). Area-based vs tree-centric approaches to mapping forest carbon in Southeast Asian forests from airborne laser scanning data. *Remote Sensing of Environment*, 194, 77–88. <https://doi.org/10.1016/j.rse.2017.03.017>
- darrenl. (2021). *Tzutalin/labelImg* [Python]. <https://github.com/tzutalin/labelImg> (Original work published 2015)
- Dong, R., Li, W., Fu, H., Gan, L., Yu, L., Zheng, J., & Xia, M. (2020). Oil palm plantation mapping from high-resolution remote sensing images using deep learning. *International Journal of Remote Sensing*, 41(5), 2022–2046. <https://doi.org/10.1080/01431161.2019.1681604>
- Du, J. (2018). Understanding of Object Detection Based on CNN Family and YOLO. *Journal of Physics: Conference Series*, 1004, 012029.
<https://doi.org/10.1088/1742-6596/1004/1/012029>
- Ferreira, M. P., Almeida, D. R. A. de, Papa, D. de A., Minervino, J. B. S., Veras, H. F. P., Formighieri, A., Santos, C. A. N., Ferreira, M. A. D., Figueiredo, E. O., & Ferreira, E. J. L. (2020). Individual tree detection and species

classification of Amazonian palms using UAV images and deep learning.

Forest Ecology and Management, 475, 118397.

<https://doi.org/10.1016/j.foreco.2020.118397>

Guirado, E., Tabik, S., Alcaraz-Segura, D., Cabello, J., & Herrera, F. (2017).

Deep-learning Versus OBIA for Scattered Shrub Detection with Google

Earth Imagery: Ziziphus lotus as Case Study. *Remote Sensing*, 9(12), 1220.

<https://doi.org/10.3390/rs9121220>

Hardjana, A. K. (n.d.). *MODEL HUBUNGAN TINGGI DAN DIAMETER TAJUK*

DENGAN DIAMETER SETINGGI DADA PADA TEGAKAN

TENGKAWANG TUNGKUL PUTIH (Shorea macrophylla (de Vriese) P.S.

Ashton) DAN TUNGKUL MERAH (Shorea stenoptera Burck.) DI

SEMBOJA, KABUPATEN SANGGAU Correlation Model Between Height

and Crown Diameter with Diameter at Breast Height on Tengkawang

Tungkul Putih (Shorea macrophylla (de Vriese) P.S. Ashton). 7, 12.

Harikumar, A., Bovolo, F., & Bruzzone, L. (2019). A Local Projection-Based

Approach to Individual Tree Detection and 3-D Crown Delineation in

Multistoried Coniferous Forests Using High-Density Airborne LiDAR

Data. *IEEE Transactions on Geoscience and Remote Sensing*, 57(2), 1168–

1182. <https://doi.org/10.1109/TGRS.2018.2865014>

Hartling, S., Sagan, V., Sidike, P., Maimaitijiang, M., & Carron, J. (2019). *Urban*

Tree Species Classification Using a WorldView-2/3 and LiDAR Data

Fusion Approach and Deep Learning. 23.

Hu, F., Xia, G.-S., Hu, J., & Zhang, L. (2015). Transferring Deep Convolutional

Neural Networks for the Scene Classification of High-Resolution Remote

Sensing Imagery. *Remote Sensing*, 7(11), 14680–14707.

<https://doi.org/10.3390/rs71114680>

Interdonato, R., Ienco, D., Gaetano, R., & Ose, K. (2019). DuPLO: A DUal view

Point deep Learning architecture for time series classificatiOn. *ISPRS*

Journal of Photogrammetry and Remote Sensing, 149, 91–104.

<https://doi.org/10.1016/j.isprsjprs.2019.01.011>

- Irvin, J., Sheng, H., Ramachandran, N., Johnson-Yu, S., Zhou, S., Story, K., Rustowicz, R., Elsworth, C., Austin, K., & Ng, A. Y. (2020). ForestNet: Classifying Drivers of Deforestation in Indonesia using Deep Learning on Satellite Imagery. *ArXiv:2011.05479 [Cs, Eess]*.
<http://arxiv.org/abs/2011.05479>
- Jennings, S. (1999). Assessing forest canopies and understorey illumination: Canopy closure, canopy cover and other measures. *Forestry*, 72(1), 59–74.
<https://doi.org/10.1093/forestry/72.1.59>
- Johnson, K. D., Birdsey, R., Finley, A. O., Swantaran, A., Dubayah, R., Wayson, C., & Riemann, R. (2014). Integrating forest inventory and analysis data into a LIDAR-based carbon monitoring system. *Carbon Balance and Management*, 9(1), 3. <https://doi.org/10.1186/1750-0680-9-3>
- Ke, Y., & Quackenbush, L. J. (2011). A review of methods for automatic individual tree-crown detection and delineation from passive remote sensing. *International Journal of Remote Sensing*, 32(17), 4725–4747.
<https://doi.org/10.1080/01431161.2010.494184>
- Köhl, M., Magnussen, S., & Marchetti, M. (2006). *Sampling methods, remote sensing and GIS multiresource forest inventory*. Springer.
- Kolanuvada, S. R., & Ilango, K. K. (2020). Automatic Extraction of Tree Crown for the Estimation of Biomass from UAV Imagery Using Neural Networks. *Journal of the Indian Society of Remote Sensing*.
<https://doi.org/10.1007/s12524-020-01242-0>
- Lechner, A. M. (2020). Applications in Remote Sensing to Forest Ecology and Management. *OPEN ACCESS*, 8.
- Li, W., Fu, H., Yu, L., & Cracknell, A. (2016). Deep Learning Based Oil Palm Tree Detection and Counting for High-Resolution Remote Sensing Images. *Remote Sensing*, 9(1), 22. <https://doi.org/10.3390/rs9010022>
- Lillesand, T. M., Kiefer, R. W., & Chipman, J. W. (2004). *Remote sensing and image interpretation* (5th ed). Wiley.

- Liu, J., Wang, X., & Wang, T. (2019). Classification of tree species and stock volume estimation in ground forest images using Deep Learning. *Computers and Electronics in Agriculture*, 166, 105012. <https://doi.org/10.1016/j.compag.2019.105012>
- Maggiori, E., Tarabalka, Y., Charpiat, G., & Alliez, P. (2017). Convolutional Neural Networks for Large-Scale Remote-Sensing Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, 55(2), 645–657. <https://doi.org/10.1109/TGRS.2016.2612821>
- Maulina, F. M. (n.d.). *IMPLEMENTATION OF DEEP LEARNING WITH CONVOLUTION NEURAL NETWORK (CNN) METHOD FOR CLASSIFICATION OF CONSUMPTION FUNGUS IMAGES IN INDONESIA USING KERAS*. 1.
- Miraki, M., Sohrabi, H., Fatehi, P., & Kneubuehler, M. (2021). Individual tree crown delineation from high-resolution UAV images in broadleaf forest. *Ecological Informatics*, 61, 101207. <https://doi.org/10.1016/j.ecoinf.2020.101207>
- Natesan, S., Armenakis, C., & Vepakomma, U. (2019). RESNET-BASED TREE SPECIES CLASSIFICATION USING UAV IMAGES. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLII-2/W13, 475–481. <https://doi.org/10.5194/isprs-archives-XLII-2-W13-475-2019>
- Nath, N. D., & Behzadan, A. H. (2020). Deep Convolutional Networks for Construction Object Detection Under Different Visual Conditions. *Frontiers in Built Environment*, 6, 97. <https://doi.org/10.3389/fbuil.2020.00097>
- Nisfianoor, M. (2009). *Pendekatan Statistika Modern untuk Ilmu Sosial*. Salemba Humanika.
- Pandiya, M., Dassani, S., & Mangalraj, P. (2020). Analysis of Deep Learning Architectures for Object Detection—A Critical Review. *2020 IEEE-HYDCON*, 1–6. <https://doi.org/10.1109/HYDCON48903.2020.9242776>

- Pinz, A. (1991). A computer vision system for the recognition of trees in aerial photographs. *Multisource Data Integration in Remote Sensing*, 3099, 111–124.
- Putra, Jan Wira Gotama. (2020, August 17). *Pengenalan Konsep Pembelajaran Mesin dan Deep Learning*.
https://wiragotama.github.io/ebook_machine_learning.html
- Redmon, J., Divvala, S., Girshick, R., & Farhadi, A. (2016). You Only Look Once: Unified, Real-Time Object Detection. *2016 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 779–788.
<https://doi.org/10.1109/CVPR.2016.91>
- Redmon, J., & Farhadi, A. (n.d.). *YOLOv3: An Incremental Improvement*. 6.
- Rizqi, A. S. (2021). *SandiRizqi/OBJECT-DETECTION-YOLO-ALGORITHM-FOR-AERIAL-IMAGERY_FROM-SCRATCH* [Python].
https://github.com/SandiRizqi/OBJECT-DETECTION-YOLO-ALGORITHM-FOR-AERIAL-IMAGERY_FROM-SCRATCH (Original work published 2021)
- Roslan, Z., Awang, Z., Husen, M. N., Ismail, R., & Hamzah, R. (2020). Deep Learning for Tree Crown Detection In Tropical Forest. *2020 14th International Conference on Ubiquitous Information Management and Communication (IMCOM)*, 1–7.
<https://doi.org/10.1109/IMCOM48794.2020.9001817>
- Sun, Y., Liu, Y., Wang, G., & Zhang, H. (2017). Deep Learning for Plant Identification in Natural Environment. *Computational Intelligence and Neuroscience*, 2017, 1–6. <https://doi.org/10.1155/2017/7361042>
- Taylor, R., Davis, C., Brandt, J., Parker, M., Stäuble, T., & Said, Z. (2020). The rise of big data and supporting technologies in keeping watch on the world's forests. *International Forestry Review*, 22(1), 129–141.
<https://doi.org/10.1505/146554820829523880>
- Tso, B., & Mather, P. M. (2009). *Classification methods for remotely sensed data* (2nd ed). CRC Press.

- Vastaranta, M., Kankare, V., Holopainen, M., Yu, X., Hyypä, J., & Hyypä, H. (2012). Combination of individual tree detection and area-based approach in imputation of forest variables using airborne laser data. *ISPRS Journal of Photogrammetry and Remote Sensing*, 67, 73–79. <https://doi.org/10.1016/j.isprsjprs.2011.10.006>
- Vijay, U. (2019, September 26). What is epoch and How to choose the correct number of epoch. *Medium*. <https://medium.com/@upendravijay2/what-is-epoch-and-how-to-choose-the-correct-number-of-epoch-d170656adaaf>
- Wanagama – Wanagama. (n.d.). Retrieved January 22, 2021, from <https://wanagama.fkt.ugm.ac.id/wanagama-2/>
- Weinstein, B. G., Marconi, S., Bohlman, S., Zare, A., & White, E. (2019). *Individual Tree-Crown Detection in RGB Imagery Using Semi-Supervised Deep Learning Neural Networks*. 13.
- What is Deep Learning? (2020, June 10). <https://www.ibm.com/cloud/learn/deep-learning>
- Yandi, W. N., Muhdin, M., & Suhendang, E. (2019). Metode Pengaturan Hasil Berdasarkan Jumlah Pohon dalam Pengelolaan Hutan Rakyat pada Tingkat Pemilik Lahan. *Jurnal Pengelolaan Sumberdaya Alam Dan Lingkungan (Journal of Natural Resources and Environmental Management)*, 9(4), 872–881. <https://doi.org/10.29244/jpsl.9.4.872-881>
- YOLO: Real-Time Object Detection. (n.d.). Retrieved June 26, 2021, from <https://pjreddie.com/darknet/yolo/>
- Zhang, B., Zhao, L., & Zhang, X. (2020). Three-dimensional convolutional neural network model for tree species classification using airborne hyperspectral images. *Remote Sensing of Environment*, 247, 111938. <https://doi.org/10.1016/j.rse.2020.111938>
- Zhang, Wu, & Yang. (2019). Forests Growth Monitoring Based on Tree Canopy 3D Reconstruction Using UAV Aerial Photogrammetry. *Forests*, 10(12), 1052. <https://doi.org/10.3390/f10121052>

Zhao, Z.-Q., Zheng, P., Xu, S.-T., & Wu, X. (2019). Object Detection With Deep Learning: A Review. *IEEE Transactions on Neural Networks and Learning Systems*, 30(11), 3212–3232.

<https://doi.org/10.1109/TNNLS.2018.2876865>

Zhu, X. X., Tuia, D., Mou, L., Xia, G.-S., Zhang, L., Xu, F., & Fraundorfer, F. (2017). Deep Learning in Remote Sensing. *Ieee Geoscience and Remote Sensing Magazine*, 29.