

DAFTAR PUSTAKA

- Adegun, A. A., Viriri, S., & Tapamo, J.-R. 2023. Review of deep learning methods for remote sensing satellite images classification: Experimental survey and comparative analysis. *Journal of Big Data*, 10(1), 93.
- Amani, M., Ghorbanian, A., Ahmadi, S. A., Kakooei, M., Moghimi, A., Mirmazloumi, S. M., Moghaddam, S. H. A., Mahdavi, S., Ghahremanloo, M., Parsian, S., Wu, Q., & Brisco, B. 2020. Google Earth Engine Cloud Computing Platform for Remote Sensing Big Data Applications: A Comprehensive Review. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 13, 5326–5350.
- Ariani, D., Prasetyo, Y., & Sasmito, B. 2020. *Estimasi Tingkat Produktivitas Padi Berdasarkan Algoritma NDVI, EVI dan SAVI Menggunakan Citra Sentinel-2 Multitemporal* (Studi Kasus: Kabupaten Pekalongan, Jawa Tengah). *Jurnal Geodesi Undip*, 9(1) 207-216.
- Ayu, F., Riesnandar, A. A., Manessa, M. D. M., Supriatna, S., Lestari, R., Bustamam, A., Sarwinda, D., Stevanuse, C. T., & Efriana, A. F. 2024. Distribusi Spasial Kesehatan Tanaman Karet Menggunakan Sentinel-1. *Jurnal Penelitian Karet*, 9–20.
- Baker, R. E., Peña, J.-M., Jayamohan, J., & Jérusalem, A. 2018. Mechanistic models versus machine learning, a fight worth fighting for the biological community? *Biology Letters*, 14(5), 20170660.
- Blickensdörfer, L., Schwieder, M., Pflugmacher, D., Nendel, C., Erasmi, S., & Hostert, P. 2022. Mapping of crop types and crop sequences with combined time series of Sentinel-1, Sentinel-2 and Landsat 8 data for Germany. *Remote Sensing of Environment*, 269, 112831.
- Boursianis, A. D., Papadopoulou, M. S., Diamantoulakis, P., Liopa-Tsakalidi, A., Barouchas, P., Salahas, G., Karagiannidis, G., Wan, S., & Goudos, S. K. 2022. Internet of Things (IoT) and Agricultural Unmanned Aerial Vehicles (UAVs) in smart farming: A comprehensive review. *Internet of Things*, 18, 100187.
- Chaaou, A., Chikhaoui, M., Naimi, M., El Miad, A. K., Achemrk, A., Seif-Ennasr, M., & El Harche, S. 2022. Mapping soil salinity risk using the approach of soil salinity index and land cover: A case study from Tadla plain, Morocco. *Arabian Journal of Geosciences*, 15(8), 722.
- Chassagnon, G., Vakalopolou, M., Paragios, N., & Revel, M.-P. 2020. Deep learning: Definition and perspectives for thoracic imaging. *European Radiology*, 30(4), 2021–2030.

- Chen, W., & Shi, K. 2019. A deep learning framework for time series classification using Relative Position Matrix and Convolutional Neural Network. *Neurocomputing*, 359, 384–394.
- Congalton, R. G., & Green, K. 2019. *Assessing the Accuracy of Remotely Sensed Data | Principles and Practices* (3rd ed.). CRC Press.
- Dash, P., Sanders, S. L., Parajuli, P., & Ouyang, Y. 2023. Improving the Accuracy of Land Use and Land Cover Classification of Landsat Data in an Agricultural Watershed. *Remote Sensing*, 15(16), 4020.
- Dawood, A. S., & Faris, Z. M. 2023. Architecture of Deep Learning and Its Applications. *Iraqi Journal of Computer, Communication, Control and System Engineering*, 23, 35–56.
- Deepthi. B, Gupta, P., Rai, P., & Arora, H. 2022. Assessing the Dynamics of AI Driven Technologies in Indian Banking and Financial Sector. *Vision*, 09722629221087371.
- Diao, C., & Li, G. 2022. Near-Surface and High-Resolution Satellite Time Series for Detecting Crop Phenology. *Remote Sensing*, 14(9).
- Dineshkumar, C., Kumar, J. S., & Nitheshnirmal, S. 2019. Rice Monitoring Using Sentinel-1 Data in the Google Earth Engine Platform. *Proceedings*, 24(1).
- Domiri, D. D. 2017. The method for detecting biological parameter of rice growth and early planting of paddy crop by using multi temporal remote sensing data. *IOP Conference Series: Earth and Environmental Science*, 54(1), 012002.
- Eisfelder, C., Boemke, B., Gessner, U., Sogno, P., Alemu, G., Hailu, R., Mesmer, C., & Huth, J. 2024. Cropland and Crop Type Classification with Sentinel-1 and Sentinel-2 Time Series Using Google Earth Engine for Agricultural Monitoring in Ethiopia. *Remote Sensing*, 16(5).
- El Hachimi, J., El Harti, A., Lhissou, R., Ouzemou, J.-E., Chakouri, M., & Jellouli, A. 2022. Combination of Sentinel-2 Satellite Images and Meteorological Data for Crop Water Requirements Estimation in Intensive Agriculture. *Agriculture*, 12(8).
- Elachi, C., & Van Zyl, J. 2021. *Introduction to the Physics and Techniques of Remote Sensing*. John Wiley & Sons.
- Farg, E., Ramadan, M. N., & Arafat, S. M. 2019. Classification of some strategic crops in Egypt using multi remotely sensing sensors and time series analysis. *The Egyptian Journal of Remote Sensing and Space Science*, 22(3), 263–270.
- Feizizadeh, B., Darabi, S., Blaschke, T., & Lakes, T. 2022. QADI as a New Method and Alternative to Kappa for Accuracy Assessment of Remote Sensing-Based Image Classification. *Sensors*, 22(12), 4506.

- Felegari, S., Sharifi, A., Moravej, K., Amin, M., Golchin, A., Muzirafuti, A., Tariq, A., & Zhao, N. 2021. Integration of Sentinel 1 and Sentinel 2 Satellite Images for Crop Mapping. *Applied Sciences*, 11(21).
- Gao, F., Anderson, M. C., Zhang, X., Yang, Z., Alfieri, J. G., Kustas, W. P., Mueller, R., Johnson, D. M., & Prueger, J. H. 2017. Toward mapping crop progress at field scales through fusion of Landsat and MODIS imagery. *Remote Sensing of Environment*, 188, 9–25.
- Hassan-Esfahani, L., Torres-Rua, A., Jensen, A., & Mckee, M. 2017. Spatial Root Zone Soil Water Content Estimation in Agricultural Lands Using Bayesian-Based Artificial Neural Networks and High- Resolution Visual, NIR, and Thermal Imagery. *Irrigation and Drainage*, 66(2), 273–288.
- Hidayat, E. Y., & Handayani, D. 2023. Penerapan 1D-CNN untuk Analisis Sentimen Ulasan Produk Kosmetik Berdasar Female Daily Review. *Jurnal Nasional Teknologi dan Sistem Informasi*, 8(3), 153–163.
- Huang, Y., Chen, Z., Yu, T., Huang, X., & Gu, X. 2018. Agricultural remote sensing big data: Management and applications. *Journal of Integrative Agriculture*, 17(9), 1915–1931.
- Huang, Y., Feng, G., Tewolde, H., & Shankle, M. W. 2023. Remote Sensing from Different Sources for Crop Growth Monitoring in the Area of the Lower Northern Mississippi. *Challenges*, 14(1).
- Immitzer, M., Vuolo, F., & Atzberger, C. 2016. First Experience with Sentinel-2 Data for Crop and Tree Species Classifications in Central Europe. *Remote Sensing*, 8(3).
- Inglada, J., Vincent, A., Arias, M., & Marais-Sicre, C. 2016. Improved Early Crop Type Identification By Joint Use of High Temporal Resolution SAR And Optical Image Time Series. *Remote Sensing*, 8(5).
- Irawan, F. A., & Rochmah, D. A. 2022. Penerapan Algoritma CNN Untuk Mengetahui Sentimen Masyarakat Terhadap Kebijakan Vaksin Covid-19. *Jurnal Informatika*, 9(2), 148–158.
- Jia, B., Wang, W., Ni, X., Lawrence, K. C., Zhuang, H., Yoon, S.-C., & Gao, Z. 2020. Essential processing methods of hyperspectral images of agricultural and food products. *Chemometrics and Intelligent Laboratory Systems*, 198, 103936.
- Khanal, S., Kc, K., Fulton, J. P., Shearer, S., & Ozkan, E. 2020. Remote Sensing in Agriculture—Accomplishments, Limitations, and Opportunities. *Remote Sensing*, 12(22).
- Kussul, N., Lavreniuk, M., & Shumilo, L. 2020. Deep Recurrent Neural Network for Crop Classification Task Based on Sentinel-1 and Sentinel-2 Imagery.

IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium, 6914–6917.

- Lee, S.-J., Choi, C., Kim, J., Choi, M., Cho, J., & Lee, Y. 2023. Estimation of High-Resolution Soil Moisture in Canadian Croplands Using Deep Neural Network with Sentinel-1 and Sentinel-2 Images. *Remote Sensing*, 15(16).
- Mao, M., Zhao, H., Tang, G., & Ren, J. 2023. In-Season Crop Type Detection by Combing Sentinel-1A and Sentinel-2 Imagery Based on the CNN Model. *Agronomy*, 13(7).
- Mashaba-Munghemezulu, Z., Chirima, G. J., & Munghemezulu, C. 2021. Mapping Smallholder Maize Farms Using Multi-Temporal Sentinel-1 Data in Support of the Sustainable Development Goals. *Remote Sensing*, 13(9).
- Maxwell, A. E., Warner, T. A., & Guillén, L. A. 2021. Accuracy Assessment in Convolutional Neural Network-Based Deep Learning Remote Sensing Studies—Part 1: Literature Review. *Remote Sensing*, 13(13).
- Miranda, E., & Aryuni, M. 2021. Klasifikasi Tutupan Lahan Menggunakan Convolutional Neural Network pada Citra Satelit Sentinel-2. *Sistemasi: Jurnal Sistem Informasi*, 10(2).
- Mozgovoy, D., & Hnatushenko, V. 2020. Information Technology of Satellite Image Processing for Monitoring of Floods and Drought. In N. Shakhovska & M. O. Medykovsky (Eds.), *Advances in Intelligent Systems and Computing IV* (pp. 473–487). Springer International Publishing.
- Nakalembe, C., Becker-Reshef, I., Bonifacio, R., Hu, G., Humber, M. L., Justice, C. J., Keniston, J., Mwangi, K., Rembold, F., Shukla, S., Urbano, F., Whitcraft, A. K., Li, Y., Zappacosta, M., Jarvis, I., & Sanchez, A. 2021. A review of satellite-based global agricultural monitoring systems available for Africa. *Global Food Security*, 29, 100543.
- Nduku, L., Munghemezulu, C., Mashaba-Munghemezulu, Z., Ratshiedana, P. E., Sibanda, S., & Chirima, J. G. 2024. Synergetic Use of Sentinel-1 and Sentinel-2 Data for Wheat-Crop Height Monitoring Using Machine Learning. *AgriEngineering*, 6(2).
- Nirtanto, I. C., Prasetyo, Y., & Sasmito, B. 2022. Analisis Pemodelan Fase Tumbuh Padi Menggunakan Citra Synthetic Aperture Radar C-Band Sentinel-1. *Jurnal Geodesi Undip*, 11(2), 61–70.
- Pandey, P. C., Balzter, H., Srivastava, P. K., Petropoulos, G. P., & Bhattacharya, B. 2020. 21—Future perspectives and challenges in hyperspectral remote sensing. In P. C. Pandey, P. K. Srivastava, H. Balzter, B. Bhattacharya, & G. P. Petropoulos (Eds.), *Hyperspectral Remote Sensing* (pp. 429–439). Elsevier.

- Pangestu, R. A., Rahmat, B., & Anggraeny, F. T. 2020. *Implementasi Algoritma CNN Untuk Klasifikasi Citra Lahan dan Perhitungan Luas*. 1(1).
- Park, S., Ryu, D., Fuentes, S., Chung, H., Hernández-Montes, E., & O'Connell, M. 2017. Adaptive Estimation of Crop Water Stress in Nectarine and Peach Orchards Using High-Resolution Imagery from an Unmanned Aerial Vehicle (UAV). *Remote Sensing*, 9(8).
- Prihatini, W. O. Z., Hartini, H., & Khabsy, M. W. A. 2024. Analisis Kehilangan Air pada Saluran Sekunder Daerah Irigasi Wonco I. *Jurnal Media Inovasi Teknik Sipil UNIDAYAN*, 13(2).
- Qu, Y., Zhao, W., Yuan, Z., & Chen, J. 2020. Crop Mapping from Sentinel-1 Polarimetric Time-Series with a Deep Neural Network. *Remote Sensing*, 12(15).
- Radočaj, D., Šiljeg, A., Marinović, R., & Jurišić, M. 2023. State of Major Vegetation Indices in Precision Agriculture Studies Indexed in Web of Science: A Review. *Agriculture*, 13(3).
- Ramadhani, I. R., Nilogiri, A., & A'yun, Q. 2022. Klasifikasi Jenis Tumbuhan Berdasarkan Citra Daun Menggunakan Metode Convolutional Neural Network. *Jurnal Smart Teknologi*, 3(3).
- Rehman, A. U., Zhang, L., Sajjad, M. M., & Raziq, A. 2024. Multi-Temporal Sentinel-1 and Sentinel-2 Data for Orchards Discrimination in Khairpur District, Pakistan Using Spectral Separability Analysis and Machine Learning Classification. *Remote Sensing*, 16(4).
- Rouault, P., Courault, D., Flamain, F., Pouget, G., Doussan, C., Lopez-Lozano, R., McCabe, M., & Debolini, M. 2024. High-resolution satellite imagery to assess orchard characteristics impacting water use. *Agricultural Water Management*, 295, 108763.
- Rwanga, S. S., & Ndambuki, J. M. 2017. Accuracy Assessment of Land Use/Land Cover Classification Using Remote Sensing and GIS. *International Journal of Geosciences*, 08(04).
- Ryu, J. Y., Chung, H. Y., & Choi, K. Y. 2021. Potential role of artificial intelligence in craniofacial surgery. *Archives of Craniofacial Surgery*, 22(5), 223–231.
- Sabins Jr, F. F., & Ellis, J. M. 2020. *Remote Sensing: Principles, Interpretation, and Applications, Fourth Edition*. Waveland Press, Inc.
- Schlund, M., & Erasmi, S. 2020. Sentinel-1 time series data for monitoring the phenology of winter wheat. *Remote Sensing of Environment*, 246, 111814.

- Selvaraj, S., Haldar, D., & Srivastava, H. S. 2021. Condition assessment of pearl millet/ bajra crop in different vigour zones using Radar Vegetation Index. *Spatial Information Research*, 29(5), 631–643.
- Shrestha, A., & Mahmood, A. 2019. Review of Deep Learning Algorithms and Architectures. *IEEE Access*, 7, 53040–53065.
- Siesto, G., Fernández-Sellers, M., & Lozano-Tello, A. 2021. Crop Classification of Satellite Imagery Using Synthetic Multitemporal and Multispectral Images in Convolutional Neural Networks. *Remote Sensing*, 13(17).
- Singh, K., Mahajan, A., & Mansotra, V. 2021. 1D-CNN based Model for Classification and Analysis of Network Attacks. *International Journal of Advanced Computer Science and Applications*, 12(11).
- Sishodia, R. P., Ray, R. L., & Singh, S. K. 2020. Applications of Remote Sensing in Precision Agriculture: A Review. *Remote Sensing*, 12(19).
- Son, N.-T., Chen, C.-F., Chen, C.-R., & Guo, H.-Y. 2020. Classification of multitemporal Sentinel-2 data for field-level monitoring of rice cropping practices in Taiwan. *Advances in Space Research*, 65(8), 1910–1921.
- Song, X.-P., Huang, W., Hansen, M. C., & Potapov, P. 2021. An evaluation of Landsat, Sentinel-2, Sentinel-1 and MODIS data for crop type mapping. *Science of Remote Sensing*, 3, 100018.
- Sonobe, R., Yamaya, Y., Tani, H., Wang, X., Kobayashi, N., & Mochizuki, K. 2018. Crop classification from Sentinel-2-derived vegetation indices using ensemble learning. *Journal of Applied Remote Sensing*, 12(2), 026019.
- Sozzi, M., Kayad, A., Marinello, F., Taylor, J., & Tisseyre, B. 2020. Comparing vineyard imagery acquired from Sentinel-2 and Unmanned Aerial Vehicle (UAV) platform. *OENO One*, 54(2).
- Supriatna, Rokhmatuloh, Wibowo, A., & Shidiq, I. P. A. 2020. Spatial analysis of rice phenology using Sentinel-1 and Sentinel-2 in Karawang Regency. *IOP Conference Series: Earth and Environmental Science*, 500(1), 012033.
- Syrris, V., Hasenohr, P., Delipetrev, B., Kotsev, A., Kempeneers, P., & Soille, P. 2019. Evaluation of the Potential of Convolutional Neural Networks and Random Forests for Multi-Class Segmentation of Sentinel-2 Imagery. *Remote Sensing*, 11(8).
- Szigarski, C., Jagdhuber, T., Baur, M., Thiel, C., Parrens, M., Wigneron, J.-P., Piles, M., & Entekhabi, D. 2018. Analysis of the Radar Vegetation Index and Potential Improvements. *Remote Sensing*, 10(11), 1776.

- Tama, A. M., & Santi, R. C. N. 2023. Klasifikasi Jenis Tanaman Hias Menggunakan Metode Convolutional Neural Network (CNN). *INTECOMS: Journal of Information Technology and Computer Science*, 6(2), 764–770.
- Taye, M. M. 2023. Understanding of Machine Learning with Deep Learning: Architectures, Workflow, Applications and Future Directions. *Computers*, 12(5).
- Thackeray, S. J., Henrys, P. A., Hemming, D., Bell, J. R., Botham, M. S., Burthe, S., Helaouet, P., Johns, D. G., Jones, I. D., Leech, D. I., Mackay, E. B., Massimino, D., Atkinson, S., Bacon, P. J., Brereton, T. M., Carvalho, L., Clutton-Brock, T. H., Duck, C., Edwards, M., ... Wanless, S. 2016. Phenological sensitivity to climate across taxa and trophic levels. *Nature*, 535(7611), 241–245.
- Tricht, K. V., Gobin, A., Gilliams, S., & Piccard, I. 2018. Synergistic Use of Radar Sentinel-1 and Optical Sentinel-2 Imagery for Crop Mapping: A Case Study for Belgium. *Remote Sensing*, 10(10).
- Veloso, A., Mermoz, S., Bouvet, A., Le Toan, T., Planells, M., Dejoux, J.-F., & Ceschia, E. 2017. Understanding the temporal behavior of crops using Sentinel-1 and Sentinel-2-like data for agricultural applications. *Remote Sensing of Environment*, 199, 415–426.
- Vilfan, N., van der Tol, C., Muller, O., Rascher, U., & Verhoef, W. 2016. Fluspect-B: A model for leaf fluorescence, reflectance and transmittance spectra. *Remote Sensing of Environment*, 186, 596–615.
- Vuolo, F., Neuwirth, M., Immitzer, M., Atzberger, C., & Ng, W.-T. 2018. How much does multi-temporal Sentinel-2 data improve crop type classification? *International Journal of Applied Earth Observation and Geoinformation*, 72, 122–130.
- Wang, Q., Parker, P. A., & Lund, R. 2025. Spatial deep convolutional neural networks. *Spatial Statistics*, 66, 100883.
- Wang, Y., Li, Y., Song, Y., & Rong, X. 2020. The Influence of the Activation Function in a Convolution Neural Network Model of Facial Expression Recognition. *Applied Sciences*, 10(5).
- Williamson, T. N., Dobrowolski, E. G., Meyer, S. M., Frey, J. W., & Allred, B. J. 2019. Delineation of tile-drain networks using thermal and multispectral imagery—Implications for water quantity and quality differences from paired edge-of-field sites. *Journal of Soil and Water Conservation*, 74(1), 1–11.
- Wu, B., Gommers, R., Zhang, M., Zeng, H., Yan, N., Zou, W., Zheng, Y., Zhang, N., Chang, S., Xing, Q., & Van Heijden, A. 2015. Global Crop Monitoring: A Satellite-Based Hierarchical Approach. *Remote Sensing*, 7(4).

- Wu, B., Zhang, M., Zeng, H., Tian, F., Potgieter, A. B., Qin, X., Yan, N., Chang, S., Zhao, Y., Dong, Q., Boken, V., Plotnikov, D., Guo, H., Wu, F., Zhao, H., Deronde, B., Tits, L., & Loupian, E. 2023. Challenges and opportunities in remote sensing-based crop monitoring: A review. *National Science Review*, 10(4), 290.
- Xie, Y., Wang, X., Wilson, A. M., & Silander, J. A. 2018. Predicting autumn phenology: How deciduous tree species respond to weather stressors. *Agricultural and Forest Meteorology*, 250–251, 127–137.
- Xue, J., & Su, B. 2017. Significant Remote Sensing Vegetation Indices: A Review of Developments and Applications. *Journal of Sensors*, 2017(1), 1353691.
- Yang, C. 2020. Remote Sensing and Precision Agriculture Technologies for Crop Disease Detection and Management with a Practical Application Example. *Engineering*, 6(5), 528–532.
- Yang, S., Gu, L., Ren, R., & He, F. 2019. Research on crop classification in Northeast China based on deep learning for Sentinel-2 data. *Earth Observing Systems XXIV*, 11127, 499–509.
- Yao, X., Wang, N., Liu, Y., Cheng, T., Tian, Y., Chen, Q., & Zhu, Y. 2017. Estimation of Wheat LAI at Middle to High Levels Using Unmanned Aerial Vehicle Narrowband Multispectral Imagery. *Remote Sensing*, 9(12).
- Zhang, W., Liu, H., Wu, W., Zhan, L., & Wei, J. 2020. Mapping Rice Paddy Based on Machine Learning with Sentinel-2 Multi-Temporal Data: Model Comparison and Transferability. *Remote Sensing*, 12(10), 1620.
- Zhao, Q., Yu, L., Li, X., Peng, D., Zhang, Y., & Gong, P. 2021. Progress and Trends in the Application of Google Earth and Google Earth Engine. *Remote Sensing*, 13(18).