

**DAFTAR PUSTAKA**

- Abdulhaq, K., & Ahmed, A. A. (2025). Real-time object detection and recognition in embedded systems using open-source computer vision frameworks. *International Journal of Electrical Engineering and Sustainability*, 3(1), 103–118. <https://ijeess.org/index.php/ijeess/article/view/113>
- Albab, U., Qirom, B. N., Niam, B., Arkan, R., & Elhaq, M. F. (2023). Peningkatan pengetahuan penggunaan Raspberry Pi sebagai sistem kontrol perangkat dan monitoring data sensor berbasis IoT di SMK N 1 Brebes. *JURPIKAT (Jurnal Pengabdian Kepada Masyarakat)*, 4(2), 127–134. <https://doi.org/10.37339/jurpikat.v4i2.1252>
- Allyssa, Z. S. A., Fuaz, N. T. Y., Ikade, S. N., Karen, A. S., & Perani, R. (2024). Pengolahan citra digital dengan penerapan teknik ambang batas: Studi kasus menggunakan OpenCV. *AI dan SPK: Jurnal Artificial Intelligent dan Sistem Penunjang Keputusan*, 1(4), 283–287. <https://jurnalmahasiswa.com/index.php/aidanspk/article/view/1478>
- Amrulloh, I. T. A., Sari, B. N., & Padilah, T. N. (2024). Evaluasi augmentasi data pada deteksi penyakit daun tebu dengan YOLOv8. *JATI (Jurnal Mahasiswa Teknik Informatika)*, 8(4), 7547–7554. <https://ejournal.itn.ac.id/index.php/jati/article/view/10267>
- Apriansyah, M. G., Supriyanto, A. A., & Kurnia, D. (2024). Implementasi Google Colaboratory pada training model untuk mendeteksi obyek pada sistem sortir barang. *Jurnal Rekayasa Mekatronika (JRM)*, 1(2), 1–10. <https://ejournal.pei.ac.id/index.php/JM/article/view/188>
- AranaCorp. (2024). *Object detection with YOLO on Raspberry Pi*. AranaCorp. <https://www.aranacorp.com/en/object-detection-with-yolo-on-raspberry-pi/>
- Ashmore, R., Calinescu, R., & Paterson, C. (2021). Assuring the machine learning lifecycle: Desiderata, methods, and challenges. *ACM Computing Surveys*, 54(5), Article 111. <https://doi.org/10.1145/3453444>
- Aswandi, A. S., Nurtanio, A., & Jalil, A. (2025). Identifikasi kerusakan buah kakao akibat serangan hama menggunakan algoritma YOLOv9. *Journal CERITA:*

- Creative Education of Research in Information Technology and Artificial Informatics*, 11(1), 40–48. <https://doi.org/10.33050/cerita.v11i1.3483>
- Badan Pusat Statistik Jawa Timur. (2022). *Luas area tanaman perkebunan kakao dan tebu menurut kabupaten/kota di Provinsi Jawa Timur*. BPS Jawa Timur. <https://jatim.bps.go.id/id/statistics-table/1/MjU5OCMx/luas-area-tanaman-perkebunan-kakao-dan-tebu-menurut-kabupaten-kota-dan-jenis-tanaman-di-provinsi-jawa-timur-ha-2021-dan-2022.html>
- Badan Pusat Statistik. (2023). *Luas tanaman perkebunan menurut provinsi*. BPS. <https://www.bps.go.id/id/statistics-table/2/MTMxIzI%3D/luas-tanaman-perkebunan-menurut-provinsi.html>
- Bafdal, N., Ardiansah, I., & Asmara, S. (2022). Application of Internet of Things (IoT) on microclimate monitoring system in the ALG Unpad greenhouse based on Raspberry Pi. *Jurnal Teknik Pertanian Lampung*, 11(3), 518–530. <https://doi.org/10.23960/jtep-1.v11i3.518-530>
- CCTCID. (2023). *Standar penilaian mutu biji kakao*. CCTCID. <https://www.cctcid.com/2023/09/29/standar-penilaian-mutu-biji-kakao>
- Dinas Pertanian dan Ketahanan Pangan Provinsi Bali. (2022). *Pengendalian penyakit busuk buah kakao*. <https://distanpangan.baliprov.go.id/pengendalian-penyakit-busuk-buah-kakao/>
- Fezari, M., & Al-Dahoud, A. (2023). Raspberry Pi 5: The new Raspberry Pi family with more computation power and AI integration. *ResearchGate*. <https://doi.org/10.13140/RG.2.2.13547.52009>
- González, R. C., & Woods, R. E. (2020). *Digital image processing* (4th ed.). Pearson.
- Hallur, S., & Gavade, A. (2025). Image feature extraction techniques: A comprehensive review. *Franklin Open*, 12, 100366. <https://doi.org/10.1016/j.fraope.2025.100366>
- Hernández, G. A. A., Olguin, J. C., Vasquez, J. I., Uriarte, A. V., & Villicaña Torres, M. C. (2023). Detection of tomato ripening stages using YOLOv3-tiny. *arXiv preprint*. <https://arxiv.org/abs/2302.00164>

- Hidayatullah, P., Syakrani, N., Sholahuddin, M. R., Gelar, T., & Tubagus, R. (2026). YOLOv8 to YOLO11 performance benchmark and comprehensive architectural comparative review. *Jurnal RESTI (Rekayasa Sistem dan Teknologi Informasi)*, 10(2), 341–354. <https://doi.org/10.29207/resti.v10i2.6598>
- Hosny, K. M., Magdi, A., Salah, A., El-Komy, O., & Lashin, N. A. (2023). Internet of Things applications using Raspberry Pi: A survey. *International Journal of Electrical and Computer Engineering*, 13(1), 902–910. <https://doi.org/10.11591/ijece.v13i1.pp902-910>
- Iswari, K. (2023). Optimasi pasca panen untuk peningkatan kualitas biji kakao: Review. *Jurnal Sains Agro*, 8(2), 106–112. <https://ojs.umb-bungo.ac.id/index.php/saingro/article/view/1175>
- Joice, A., Tufaique, T., Tazeen, H., Igathinathane, C., Zhao, L., & Archer, D. (2025). Applications of Raspberry Pi for precision agriculture: A systematic review. *Agriculture*, 15(3), 227. <https://doi.org/10.3390/agriculture15030227>
- Microsoft. (2024). *Python in Visual Studio Code*. Visual Studio Code Documentation. <https://code.visualstudio.com/docs/languages/python>
- Murendeni, R., Mwanza, A., & Obagbuwa, I. C. (2025). Using a YOLO deep learning algorithm to improve the accuracy of 3D object detection by autonomous vehicles. *World Electric Vehicle Journal*, 16(1), 9. <https://doi.org/10.3390/wevj16010009>
- Noordin, N. H., Samad, R., & Abdul Malek, A. H. (2025). Real-time FFB ripeness detection using IoT-enabled YOLOv8n on Raspberry Pi 4 edge devices for precision agriculture. *Journal of Mechatronics, Electrical Power, and Vehicular Technology*, 16, 305–317. <https://doi.org/10.14203/j.mev.2025.v16.305-317>
- Pusat Data dan Sistem Informasi Pertanian, Kementerian Pertanian RI. (2025). *Outlook komoditas perkebunan: Kakao*. Kementerian Pertanian RI. [https://satudata.pertanian.go.id/assets/docs/publikasi/OUTLOOK\\_KAKAO\\_2025\\_sign\\_rev.pdf](https://satudata.pertanian.go.id/assets/docs/publikasi/OUTLOOK_KAKAO_2025_sign_rev.pdf)

- Ramadhan, R. R., & Udjulawa, D. (2026). Deteksi dan klasifikasi penyakit pada buah kakao menggunakan YOLOv11. *JIKO (Jurnal Informatika dan Komputer)*, 10(1), 154–165. <https://doi.org/10.26798/jiko.v10i1.2399>
- Raspberry Pi Foundation. (2025). *Deploying Ultralytics YOLO models on Raspberry Pi devices*. Raspberry Pi Foundation. <https://www.raspberrypi.com/news/deploying-ultralytics-yolo-models-on-raspberry-pi-devices/>
- Roboflow. (2025). *Deploy YOLOv11 to Raspberry Pi*. Roboflow. <https://roboflow.com/how-to-deploy/deploy-yolo11-to-raspberry-pi>
- Saepudin, Sujana, N., Mutoffar, M. M., & Haryanto, A. A. (2024). Analisis kinerja YOLOv8 optimalisasi Roboflow untuk deteksi ekspresi wajah emosional dengan machine learning. *NARATIF: Jurnal Ilmiah Nasional Riset Aplikasi dan Teknik Informatika*, 6(2), 115–124. <https://doi.org/10.53580/naratif.v6i2.292>
- Safitri, A. F., Watiniasih, N. L., & Suartini, N. M. (2024). Karakterisasi morfologi tanaman kakao (*Theobroma cacao* L.) dan hama yang ditemukan di PT. Perkebunan Nusantara XII Banyuwangi. *Simbiosis: Journal of Biological Sciences*, 12(2), 152–162. <https://doi.org/10.24843/JSIMBIOSIS.2024.v12.i02.p04>
- Setiyadi, A., Utami, E., & Ariatmanto, D. (2023). Analisa kemampuan algoritma YOLOv8 dalam deteksi objek manusia dengan metode modifikasi arsitektur. *J-SAKTI (Jurnal Sains Komputer dan Informatika)*, 7(2), 891–901. <https://tunasbangsa.ac.id/ejurnal/index.php/jsakti>
- Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Tasari, G. (2021). *Mengenal Visual Studio Code*. GameLab Indonesia. <https://www.gamelab.id/news/468-mengenal-visual-studio-code>
- Trigka, M., & Dritsas, E. (2025). A comprehensive survey of deep learning approaches in image processing. *Sensors*, 25(2), 531. <https://doi.org/10.3390/s25020531>
- Ultralytics. (2025). *Raspberry Pi – Ultralytics YOLO Docs*. Ultralytics Documentation. <https://docs.ultralytics.com/guides/raspberry-pi/>

- Warta ICCRI. (2023). Penerapan SNI biji kakao dalam rangka meningkatkan mutu biji kakao rakyat. *Warta ICCRI*. [https://warta.iccri.net/wp-content/uploads/2023/05/5.-A-Fauji\\_Penerapan-SNI-Biji-Kakao-dalam-Rangka-Meningkatkan-Mutu-Biji-Kakao-Rakyat.pdf](https://warta.iccri.net/wp-content/uploads/2023/05/5.-A-Fauji_Penerapan-SNI-Biji-Kakao-dalam-Rangka-Meningkatkan-Mutu-Biji-Kakao-Rakyat.pdf)
- Wilcent, & Wijaya, N. (2026). Klasifikasi tingkat kematangan buah kakao menggunakan EfficientNet-B7. *JATI (Jurnal Mahasiswa Teknik Informatika)*, 10(1), 407–412. <https://doi.org/10.36040/jati.v10i1.16756>
- Wilianto, Yuliana, Kusuma, A. W., & Faustin, J. E. (2023). Sistem pengamanan pintu rumah dengan Raspberry Pi berbasis Internet of Things. *Puribersama: Jurnal Publikasi Riset Bersama Dosen dan Mahasiswa*, 2(6), 74–85. <https://ejournal.ibbi.ac.id/index.php/JPRB/issue/view/4>
- Zhao, H., Xu, D., Lawal, O., & Zhang, S. (2021). Muskmelon maturity stage classification model based on CNN. *Journal of Robotics*, 2021, Article 8828340. <https://doi.org/10.1155/2021/8828340>