

DAFTAR PUSTAKA

- Amrouk, E. M., Palmeri, F., & Magrini, E. (2025). *Global coffee market and recent price developments*. Food and Agriculture Organization of the United Nations (FAO). <https://www.fao.org/>
- Anagaw, Y. K., Ayenew, W., Limenh, L. W., Geremew, D. T., Worku, M. C., Tessema, T. A., Simegn, W., & Mitku, M. L. (2024). Food adulteration: Causes, risks, and detection techniques—Review. *SAGE Open Medicine*, 12. <https://doi.org/10.1177/20503121241250184>
- Arana, J. (2016). Classification of Coffee Beans by GC-C-IRMS, GC-MS, and ¹H-NMR. *Journal of Analytical Methods in Chemistry*, 2016, 1–9. <https://doi.org/10.1155/2016/8943096>
- Caporaso, N., Whitworth, M., & Fisk, I. (2018). Variability of single bean coffee volatile compounds of Arabica and robusta roasted coffees analysed by SPME-GC-MS. *Food Research International (Ottawa, Ont.)*, 108, 628–640. <https://doi.org/10.1016/j.foodres.2018.03.077>
- Cascos, G., Montero-Fernández, I., Marcía-Fuentes, J., Aleman, R., Ruiz-Canales, A., & Martín-Vertedor, D. (2024). Electronic Prediction of Chemical Contaminants in Aroma of Brewed Roasted Coffee and Quantification of Acrylamide Levels. *Foods*, 13. <https://doi.org/10.3390/foods13050768>
- Chen, H., Chen, H., Chen, J., & Song, M. (2024). Gas Sensors Based on Semiconductor Metal Oxides Fabricated by Electrospinning: A Review. *Sensors (Basel, Switzerland)*, 24. <https://doi.org/10.3390/s24102962>
- Chen, T., & Guestrin, C. (2016). *XGBoost: A Scalable Tree Boosting System*. Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD '16). <https://doi.org/10.1145/2939672.2939785>
- Costa, E. V., Souza, C. de, Galvão, A. F. C., Silva, V. R., Santos, L. de S., Dias, R. B., Rocha, C. A. G., Soares, M. B. P., Silva, F. M. A. da, Koolen, H. H. F., & Bezerra, D. P. (2022). Duguetia Pycnastera Sandwith (Annonaceae) Leaf Essential Oil Inhibits HepG2 Cell Growth in Vitro and in Vivo. *Molecules*, 27(17), 5664. <https://doi.org/10.3390/molecules27175664>
- Covaciu, F.-D., Berghian-Grosan, C., Hategan, A. R., Magdas, D. A., Dehelean, A., & Cristea, G. (2023). Machine Learning Approach to Comparing Fatty Acid Profiles of Common Food Products Sold on Romanian Market. *Foods*, 12(23), 4237. <https://doi.org/10.3390/foods12234237>

- Du, K.-L., Jiang, B., Lu, J., Hua, J., & Swamy, M. (2024). Exploring Kernel Machines and Support Vector Machines: Principles, Techniques, and Future Directions. *Mathematics*. <https://doi.org/10.3390/math12243935>
- Dulanlebit, Y. H., Hattu, N., Sangadji, R. P., Mahulette, R., Kelmanutu, N., & Asari, S. (2020). Performance of Caffeine Content Analysis in Robusta Sp and Theobroma Cacao L Using Iodometry, UV-Vis Spectrophotometry and High Performance Liquid Chromatography. *The Journal of Pure and Applied Chemistry Research*, 9(3), 212–221. <https://doi.org/10.21776/ub.jpacr.2020.009.03.535>
- Elefante, A., Giglio, M., Mongelli, L., Bux, A., Zifarelli, A., Menduni, G., Patimisco, P., Caratti, A., Cagliero, C., Liberto, E., Cordero, C., Navarini, L., Spagnolo, V., & Sampaolo, A. (2025). Spectroscopic Study of Volatile Organic Compounds for the Assessment of Coffee Authenticity. *Molecules*, 30, 3487. <https://doi.org/10.3390/molecules30173487>
- Epping, R., & Koch, M. (2023). On-Site Detection of Volatile Organic Compounds (VOCs). *Molecules*, 28. <https://doi.org/10.3390/molecules28041598>
- Evidently AI Team. (2025, January 9). *How to explain the ROC AUC score and ROC curve?* <https://www.evidentlyai.com/classification-metrics/explain-roc-curve>
- Fang. (2023). Application of GC–TOF/MS and GC×GC–TOF/MS to Discriminate Coffee Products in Three States (Bean, Powder, Brew). *Food Chemistry*, 425. <https://doi.org/10.1016/j.foodchem.2023.136635>
- Genuer, R., & Poggi, J.-M. (2020). *Random Forests with R*. Springer Nature Switzerland AG. <https://doi.org/10.1007/978-3-030-56485-8>
- Géron, A. (2019). *Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow* (2nd ed.). O'Reilly Media.
- Hardoyono, F., & Windhani, K. (2023). Combination of metal oxide semiconductor gas sensor array and solid-phase microextraction gas chromatography–mass spectrometry for odour classification of brewed coffee. *Flavour and Fragrance Journal*. <https://doi.org/10.1002/ffj.3759>
- Hidayaturrohman, Q. A., & Hanada, E. (2024). Impact of Data Pre-Processing Techniques on XGBoost Model Performance for Predicting All-Cause Readmission and Mortality Among Patients with Heart Failure. *BioMedInformatics*, 4, 2201–2212. <https://doi.org/10.3390/biomedinformatics4040118>
- Hinterberger, E., Ackerly, E., Chen, Y., & Li, Y. (2021). Development of a Low-Cost and Versatile Gas Chromatography System for Teaching Analytical

Chemistry. *Journal of Chemical Education*.
<https://doi.org/10.1021/acs.jchemed.1c00868>

- Ibnu, M., & Rosanti, N. (2022). Tren Produksi dan Perdagangan Negara-Negara Produsen Kopi Terbesar di Dunia dan Implikasinya bagi Indonesia. *Buletin Ilmiah Litbang Perdagangan*, 16(2), 145–166. <https://doi.org/10.55981/bilp.2022.5>
- Khan, S. N., Khan, S. U., Aznaoui, H., Şahín, C., & Dinler, Ö. (2023). Generalization of linear and non-linear support vector machine in multiple fields: A review. *Computer Science and Information Technologies*. <https://doi.org/10.11591/csit.v4i3.p226-239>
- Konieczka, P. P., Aliaño-González, M. J., Ferreiro-González, M., Barbero, G. F., & Palma, M. (2020). Characterization of Arabica and Robusta Coffees by Ion Mobility Sum Spectrum. *Sensors*, 20(3123). <https://doi.org/10.3390/s20113123>
- Lee, Y., Son, H., Lee, J., & Lim, S.-H. (2024). Review on micro-gas chromatography system for analysis of multiple low-concentration volatile organic compounds: Preconcentration, separation, detection, integration, and challenges. *Micro and Nano Systems Letters*. <https://doi.org/10.1186/s40486-024-00203-3>
- Lin, T., Lv, X., Hu, Z., Xu, A., & Feng, C. (2019). Semiconductor Metal Oxides as Chemoresistive Sensors for Detecting Volatile Organic Compounds. *Sensors*, 19(2), 233. <https://doi.org/10.3390/s19020233>
- Lu, Z., Chen, Z., Ping, H., Chen, H., & Chen, X. (2024). A small-scale silica gel column chromatography method for separating carbazole compounds from highly mature crude oil. *Journal of Chromatography A*, 1713, 464536. <https://doi.org/10.1016/j.chroma.2023.464536>
- Lyrio, M. V. V., Cunha, P. H. P. da, Debona, D. G., Agnoletti, B. Z., Araújo, B. Q., Frinhani, R. Q., Filgueiras, P. R., Pereira, L. L., & Castro, E. V. R. de. (2023). SHS-GC-MS Applied in Coffea Arabica and Coffea Canephora Blend Assessment. *Analytical Methods*, 15(29), 3499–3509. <https://doi.org/10.1039/d3ay00510k>
- Meziani, A., Verloy, S., Ferroukhi, O., Roca, S., Curat, A., Tisse, S., Peulon-Agasse, V., Gardeniers, H., Desmet, G., & Cardinael, P. (2022). Evaluation of Gas Chromatography Columns with Radially Elongated Pillars as Second-Dimension Columns in Comprehensive Two-Dimensional Gas Chromatography. *Analytical Chemistry*. <https://doi.org/10.1021/acs.analchem.2c01264>
- Mozumder, A. B., Chanda, K., Chorei, R., & Prasad, H. (2022). An Evaluation of Aluminum Tolerant Pseudomonas Aeruginosa A7 for in Vivo Suppression

- of Fusarium Wilt of Chickpea Caused by *Fusarium Oxysporum* F. Sp. Ciceris and Growth Promotion of Chickpea. *Microorganisms*, 10(3), 568. <https://doi.org/10.3390/microorganisms10030568>
- Mumuni, A., & Mumuni, F. (2025). Automated data processing and feature engineering for deep learning and big data applications: A survey. *Journal of Information and Intelligence*, 3(2), 113–153. <https://doi.org/10.1016/j.jiixd.2024.01.002>
- Munyendo, L., Njoroge, D., & Hitzmann, B. (2022). The Potential of Spectroscopic Techniques in Coffee Analysis—A Review. *Processes*, 10(71). <https://doi.org/10.3390/pr10010071>
- Narváez, E., Zapata, E., Dereix, J. D., López, C., Torijano-Gutiérrez, S., & Zapata, J. (2024). A Comparative Analysis of Cold Brew Coffee Aroma Using the Gas Chromatography–Olfactometry–Mass Spectrometry Technique: Headspace–Solid-Phase Extraction and Headspace Solid-Phase Microextraction Methods for the Extraction of Sensory-Active Compounds. *Molecules*, 29. <https://doi.org/10.3390/molecules29163791>
- Neubert, S., Roddelkopf, T., Al-Okby, M. F. R., Junginger, S., & Thurow, K. (2021). Flexible IoT Gas Sensor Node for Automated Life Science Environments Using Stationary and Mobile Robots. *Sensors (Basel, Switzerland)*, 21. <https://doi.org/10.3390/s21217347>
- Nurnaafi, A. (2025). *Rancang Bangun Kromatografi Gas dengan TCD dan SGP30 untuk Klasifikasi Senyawa Toluena dan Etanol Berbasis Support Vector Machine* [Undergraduate Thesis]. Universitas Negeri Jakarta.
- Paglarini, C. de S., Vidal, V. A. S., Ribeiro, W. O., Ribeiro, A. P. B., Bernardinelli, O. D., Herrero, A. M., Ruiz-Capillas, C., Sabadini, E., & Pollonio, M. A. R. (2020). Using Inulin-based Emulsion Gels as Fat Substitute in Salt Reduced Bologna Sausage. *Journal of the Science of Food and Agriculture*, 101(2), 505–517. <https://doi.org/10.1002/jsfa.10659>
- Paiva, A., Teixeira, C. A., & Hantao, L. (2025). Enhancing the Understanding of Aroma Formation during Coffee Roasting Using DHS-GC×GC-TOFMS and Chemometrics. *ACS Omega*, 10, 26871–26883. <https://doi.org/10.1021/acsomega.5c01783>
- Raschka, S. (2015). *Python Machine Learning*. PACKT Publishing.
- Riccardi, C., Buiarelli, F., Castellani, F., Filippo, P. D., Lorini, L., Majone, M., Matos, M., Pomata, D., Simonetti, G., Ferreira, B. S., & Valentino, F. (2020). Polychlorinated Biphenyl Profile in Polyhydroxy-Alkanoates Synthesized From Urban Organic Wastes. *Polymers*, 12(3), 659. <https://doi.org/10.3390/polym12030659>

- Salo, H. M., Nguyen, N., Alakärppä, E., Klavins, L., Hykkerud, A. L., Karppinen, K., Jaakola, L., Klavins, M., & Häggman, H. (2021). Authentication of berries and berry-based food products. *Comprehensive Reviews in Food Science and Food Safety*, 20(5), 5197–5225. <https://doi.org/10.1111/1541-4337.12811>
- Sugiharto, Y., Natania, E., Febriyanti, S. A., & Krisbianto, O. (2022). Comparison of gas chromatography detectors and its application in food analysis. *Journal of Food and Agricultural Product*. <https://doi.org/10.32585/jfap.v2i1.2250>
- surani, surani, Pujiasmoro, C., & Kadarohman, A. (2023). Penentuan Suhu Terprogram Optimum pada Analisis Asam Lemak Hasil Ekstrak Mikroalga *Chlorella* Menggunakan Instrument GCMS. *Unesa Journal of Chemistry*, 12(1), 20–25. <https://doi.org/10.26740/ujc.v12n1.p20-25>
- Utrilla-Catalan, R., Rodríguez-Rivero, R., Narvaez, V., Díaz-Barcos, V., Blanco, M., & Galeano, J. (2022). Growing Inequality in the Coffee Global Value Chain: A Complex Network Assessment. *Sustainability*, 14(2), 672. <https://doi.org/10.3390/su14020672>
- Zakidou, P., Plati, F., Matsakidou, A., Varka, E. -m., Blekas, G., & Paraskevopoulou, A. (2021). Single Origin Coffee Aroma: From Optimized Flavor Protocols and Coffee Customization to Instrumental Volatile Characterization and Chemometrics. *Molecules*, 26. <https://doi.org/10.3390/molecules26154609>