

DAFTAR PUSTAKA

- [1] CNBC Indonesia, “Tren Kecelakaan Lalin Lagi-Lagi Didominasi Sepeda Motor,” CNBC Indonesia. Accessed: Oct. 15, 2024. [Online]. Available: <https://www.cnbcindonesia.com/news/20231227160816-4-500635/tren-kecelakaan-lalin-lagi-lagi-didominasi-sepeda-motor>
- [2] GAIKINDO, “Jumlah Kendaraan di Indonesia 147 Juta Unit, 60 Persen di Pulau Jawa,” GAIKINDO. Accessed: Oct. 15, 2024. [Online]. Available: <https://www.gaikindo.or.id/jumlah-kendaraan-di-indonesia-147-juta-unit-60-persen-di-pulau-jawa/>
- [3] Khairul Fahmi, “FAKTOR PENYEBAB KECELAKAAN LALU LINTAS DAN PERILAKU BERKENDARA PADA SISWA SEKOLAH MENENGAH ATAS DI PASIR PENGARAIAN RIAU,” *Jurnal Ilmiah Cano Ekonomos*, vol. 10, no. 1, pp. 1–10, Jul. 2021, doi: 10.30606/cano.v10i1.1084.
- [4] L. N. Kholilah, “Analisis Angka Kecelakaan pada Malam Hari saat Menggunakan Kendaraan Roda Dua,” Kompasiana. Accessed: Oct. 15, 2024. [Online]. Available: <https://www.kompasiana.com/lilahnurkholilah9571/638acbeb4addee54e6145a12/analisis-angka-kecelakaan-pada-malam-hari-saat-menggunakan-kendaraan-roda-dua>
- [5] A. H. Alkhawani and B. S. Alsamani, “A Framework and IoT-Based Accident Detection System to Securely Report an Accident and the Driver’s Private Information,” *Sustainability*, vol. 15, no. 10, p. 8314, May 2023, doi: 10.3390/su15108314.
- [6] D. Nesakumar, T. Suresh, M. Aarthi, K. Gomathi, G. Aarthi, and P. Mugilan, “Accident Detection, Alert and Tracking System Based on IoT,” 2020. [Online]. Available: <https://www.researchgate.net/publication/357648586>
- [7] Nocola Team, “IoT dalam Transportasi: Meningkatkan Efisiensi dan Keselamatan,” Nocola. Accessed: Jun. 10, 2025. [Online]. Available: <https://nocola.co.id/id/iot-dalam-transportasi-meningkatkan-efisiensi-dan-keselamatan/>
- [8] S. D. Kalamaras, M.-A. Tsitsimpikou, C. A. Tzenos, A. A. Lithourgidis, D. S. Pitsikoglou, and T. A. Kotsopoulos, “A Low-Cost IoT System Based on the ESP32 Microcontroller for Efficient Monitoring of a Pilot Anaerobic Biogas Reactor,” *Applied Sciences*, vol. 15, no. 1, p. 34, Dec. 2024, doi: 10.3390/app15010034.

- [9] D. Hercog, T. Lerher, M. Truntič, and O. Težak, "Design and Implementation of ESP32-Based IoT Devices," *Sensors*, vol. 23, no. 15, p. 6739, Jul. 2023, doi: 10.3390/s23156739.
- [10] A. Mathews Eldho, S. SaleemP, and E. Jose Charley, "Accident Alert System Using Sensors And IOT Devices," 2025. [Online]. Available: www.ijert.org
- [11] I. Moumen, N. Rafalia, J. Abouchabaka, and M. Aoufi, "Real-time GPS Tracking System for IoT-Enabled Connected Vehicles," *E3S Web of Conferences*, vol. 412, p. 01095, Aug. 2023, doi: 10.1051/e3sconf/202341201095.
- [12] S. K. Sutradhar, "IoT Based Vehicle Accident Detection, Prevention and Parking System," *Int J Res Appl Sci Eng Technol*, vol. 12, no. 11, pp. 1952–1960, Nov. 2024, doi: 10.22214/ijraset.2024.65101.
- [13] Team Flux, "LM2596 in Action: Case Study of its Application in Power Supply Units," Flux.ai. Accessed: Jun. 10, 2025. [Online]. Available: <https://www.flux.ai/p/blog/lm2596-in-action-case-study-of-its-application-in-power-supply-units>
- [14] G. Scraps, "Arduino IDE (Integrated Development Environment) - V1.X," GeeksforGeeks. Accessed: Jun. 10, 2025. [Online]. Available: <https://www.geeksforgeeks.org/electronics-engineering/arduino-integrated-development-environment-ide-v1/>
- [15] N. M. Surbakti *et al.*, "Penggunaan Bahasa Pemrograman Python dalam Pembelajaran Kalkulus Fungsi Dua Variabel," *Algoritma: Jurnal Matematika, Ilmu pengetahuan Alam, Kebumihan dan Angkasa*, vol. 2, no. 3, pp. 98–107, May 2024, doi: 10.62383/algoritma.v2i3.67.
- [16] A. Amarulloh, "ANALISIS PERBANDINGAN PERFORMA WEB SERVICE REST MENGGUNAKAN FRAMEWORK LARAVEL, DJANGO, DAN Node JS PADA APLIKASI BERBASIS WEBSITE," Feb. 2023.
- [17] S. Sharma, "Performance Evaluation of IoT Database Management using Mongo DB versus MYSQL Databases," *International Journal of Electrical*, vol. 13, no. 2, pp. 1–04, 2024, [Online]. Available: www.researchtrend.net
- [18] D. Oluremi, "INTEGRATION OF NODEMCU WITH GOOGLE FIREBASE FOR REAL-TIME UNDERGROUND CABLE FAULT ALERTS," May 2025. [Online]. Available: <https://www.researchgate.net/publication/391731885>

- [19] A. Zewdie Ayezabu, “Ayezabu Amanuel Supabase vs Firebase: Evaluation of performance and development of Progressive Web Apps,” 2022.
- [20] T. Hannula, “Toni Hannula UNITY MOBILE APPLICATION WITH A SERVERLESS FIREBASE BACKEND,” 2021.
- [21] F. N. Azhari and S. Sutarman, “Transforming SME operations with real-time mobile POS and Firebase integration,” *International Journal of Science, Technology, Engineering & Mathematics*, vol. 4, no. 4, pp. 108–135, Dec. 2024, doi: 10.53378/ijstem.353134.
- [22] J. Leoni, S. Gelmini, G. Panzani, M. Tanelli, and S. M. Savaresi, “Automatic eCall in Powered Two-Wheelers: A Dynamics-Based Approach,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 26, no. 4, pp. 4365–4379, Apr. 2025, doi: 10.1109/TITS.2025.3545907.
- [23] R. Jubitra and R. Khana, “JURNAL TRESHOLD,” Feb. 2020.
- [24] K. N. S. Ayuningtyas, A. Kusumawati, and E. Ellizar, “PERBANDINGAN PERILAKU KECEPATAN BERLEBIH PENGEMUDI MOBIL DAN SEPEDA MOTOR Studi Kasus: Provinsi Jawa Barat, Indonesia (The Comparison of Exceeding Speed Behavior Between Car Drivers and Motorcyclists Case of Study: West Java Province, Indonesia),” Jun. 2021.
- [25] S. R. Wategonkar, K. P. Rane, S. A. Khot, N. A. Yadav, S. A. Vilankar, and S. Akashe, “Development and Execution of an IoT-Based Accident Detection and Alert System with Location Tracking,” in *2024 Sixth International Conference on Computational Intelligence and Communication Technologies (CCICT)*, IEEE, Apr. 2024, pp. 91–97. doi: 10.1109/CCICT62777.2024.00027.
- [26] G. Karuna, R. P. R. Kumar, V. T. S. Sai, J. Abhishek, M. Shashikanth, and B. Kashyap, “Motorcycle Crash Detection and Alert System using IoT,” *E3S Web of Conferences*, vol. 391, p. 01145, Jun. 2023, doi: 10.1051/e3sconf/202339101145.
- [27] E. B. Sevandal, M. F. T. Menque, L. M. Dagsa, A. D. B. Balamad, and E. R. B. Sajonia, “Real-time IoT-based Motorcycle Accident Detection and Alert System,” in *International Exchange and Innovation Conference on Engineering and Sciences*, Kyushu University, 2024, pp. 494–499. doi: 10.5109/7323306.

- [28] U. Alvi, M. A. K. Khattak, B. Shabir, A. W. Malik, and S. R. Muhammad, “A Comprehensive Study on IoT Based Accident Detection Systems for Smart Vehicles,” *IEEE Access*, vol. 8, pp. 122480–122497, 2020, doi: 10.1109/ACCESS.2020.3006887.
- [29] Prof. Vikas Desai *et al.*, “IoT-Based Smart Weather Station Using ESP32 for Real-Time Environmental Monitoring,” *International Journal of Advanced Research in Science, Communication and Technology*, pp. 491–501, Apr. 2025, doi: 10.48175/IJAR SCT-24870.
- [30] J. Swacha and A. Kulpa, “Evolution of Popularity and Multiaspectual Comparison of Widely Used Web Development Frameworks,” *Electronics (Switzerland)*, vol. 12, no. 17, Sep. 2023, doi: 10.3390/electronics12173563.
- [31] A. Jha, “Node.js vs. Django: A Performance and Scalability Comparison,” Apr. 29, 2025. doi: 10.22541/au.174595468.89155647/v1.
- [32] K. Mae, M. Kho, R. Paul, T. Fababeir, J. Dominique, and J. Torres, “AN ANALYSIS OF THE IMPACT ON MODERN WEB APPLICATION DEVELOPMENT: BASIS FOR PHP FRAMEWORK EFFICIENCY MODEL,” 2024. [Online]. Available: <https://www.researchgate.net/publication/388849207>
- [33] G. Jošt and V. Taneski, “State-of-the-Art Cross-Platform Mobile Application Development Frameworks: A Comparative Study of Market and Developer Trends,” *Informatics*, vol. 12, no. 2, p. 45, Apr. 2025, doi: 10.3390/informatics12020045.
- [34] R. Jangassiyev *et al.*, “Comparative analysis of cross-platform development methodologies: a comprehensive study,” *Telkomnika (Telecommunication Computing Electronics and Control)*, vol. 23, no. 1, pp. 108–118, Feb. 2025, doi: 10.12928/TELKOMNIKA.v23i1.26331.
- [35] E. D. Ayele, S. Gavriel, J. F. Gonzalez, W. B. Teeuw, P. Philimis, and G. Gillani, “Emerging Industrial Internet of Things Open-Source Platforms and Applications in Diverse Sectors,” Jun. 01, 2024, *Multidisciplinary Digital Publishing Institute (MDPI)*. doi: 10.3390/telecom5020019.
- [36] S. A. Ionescu, V. Diaconita, and A. O. Radu, “Engineering Sustainable Data Architectures for Modern Financial Institutions †,” *Electronics (Switzerland)*, vol. 14, no. 8, Apr. 2025, doi: 10.3390/electronics14081650.

- [37] G. Petrov and V. Vasilev, "Communication Interfaces, Protocols, and Specialized Time Series Databases for the Internet of Things (IoT) - Survey," 2025.
- [38] A. Faridoon and M. Imran, "BIG DATA STORAGE TOOLS USING NOSQL DATABASES AND THEIR APPLICATIONS IN VARIOUS DOMAINS: A SYSTEMATIC REVIEW," *Computing and Informatics*, vol. 40, pp. 489–521, 2021, doi: 10.31577/cai.
- [39] B. Wicaksono, A. Susanto, T. Informatika, F. Ilmu Komputer, and U. Dian Nuswantoro Semarang, "Push Notification Menggunakan Firebase Cloud Messaging (FCM) Pada Aplikasi Absensi Karyawan Push Notification Using Firebase Cloud Messaging (FCM) on Employee Attendance Application," vol. 11, no. 2, 2021, doi: 10.30700/jst.v11i2.1150.
- [40] W.-T. Sung, I. Vilia Devi, and S.-J. Hsiao, "Smart Lamp Using Google Firebase as Realtime Database," *Intelligent Automation & Soft Computing*, vol. 33, no. 2, pp. 967–982, 2022, doi: 10.32604/iasc.2022.024664.
- [41] E. Shahkaar *et al.*, "Development of Smart Helmet using Internet of Things (IOT)," Jul. 2024. [Online]. Available: <http://xisdxjxsu.asia>
- [42] S. S. Tashfia, R. Islam, S. I. Sultan, M. W. Rahman, A. Habib, and L. Y. Pinky, "Intelligent Motorcycle Monitoring Scheme using IoT with Expert System in Bangladesh," in *ICCIT 2020 - 23rd International Conference on Computer and Information Technology, Proceedings*, Institute of Electrical and Electronics Engineers Inc., Dec. 2020. doi: 10.1109/ICCIT51783.2020.9392675.
- [43] E. Zhang and N. Masoud, "Increasing GPS Localization Accuracy with Reinforcement Learning," *IEEE Transactions on Intelligent Transportation Systems*, vol. 22, no. 5, pp. 2615–2626, May 2021, doi: 10.1109/TITS.2020.2972409.
- [44] E. Saavedra, L. Mascaraque, G. Calderon, G. Del Campo, and A. Santamaria, "A Universal Testbed for IoT Wireless Technologies: Abstracting Latency, Error Rate and Stability from the IoT Protocol and Hardware Platform," *Sensors*, vol. 22, no. 11, Jun. 2022, doi: 10.3390/s22114159.
- [45] S. W. H. Shah, A. N. Mian, A. Aijaz, J. Qadir, and J. Crowcroft, "Energy-Efficient MAC for Cellular IoT: State-of-the-Art, Challenges, and Standardization," *IEEE Transactions*

on *Green Communications and Networking*, vol. 5, no. 2, pp. 587–599, Jun. 2021, doi: 10.1109/TGCN.2021.3062093.

- [46] L. Safitri, C. E. Gunawan, and M. S. Muarie, “Usability Analysis of the Ikan Musi Mobile Application Using the System Usability Scale (SUS),” *The Future of Education Journal*, vol. 4, p. Page, 2025, [Online]. Available: <https://journal.tofedu.or.id/index.php/journal/index>
- [47] J. Gerhardsen, “Evaluating the user experience of a learning management system-to improve usability Utvärdering av användarupplevelsen av en lärplattform,” 2023. [Online]. Available: www.liu.se
- [48] Z. Mohammadzadeh *et al.*, “Evaluating usability of computerized physician order entry systems: Insights from a developing nation,” *Inform Med Unlocked*, vol. 47, Jan. 2024, doi: 10.1016/j.imu.2024.101487.
- [49] N. Clark, M. Dabkowski, P. Driscoll, D. Kennedy, I. Kloo, and H. Shi, “Empirical Decision Rules for Improving the Uncertainty Reporting of Small Sample System Usability Scale Scores,” Jan. 2021, doi: 10.1080/10447318.2020.1870831.