

itu, visualisasi data baik dalam *scatter plot* maupun *heatmap* pada pengujian juga menunjukkan hasil yang cukup akurat dengan kondisi aktual.

## DAFTAR PUSTAKA

- 1] Anon, "chipolo," [Online]. Available: <https://chipolo.net/en/blogs/bluetooth-trackers-how-it-works>. [Accessed 11 July 2024].
- 2] C. M. Annur, "Demografi: Jumlah Kendaraan Listrik di Indonesia (2020-2022)," Katadata Media Network, 15 September 2023. [Online]. Available: <https://databoks.katadata.co.id/datapublish/2023/09/15/riset-deloitte-dan-foundry-penggunaan-motor-listrik-di-indonesia-naik-13-kali-lipat-dalam-dua-tahun>. . [Accessed 9 January 2024].
- 3] C. M. Annur, "Demografi: 10 Kejahatan yang Paling Banyak Terjadi di Indonesia (Januari-April 2023)," Katadata Media Network, 18 July 2023. [Online]. Available: <https://databoks.katadata.co.id/datapublish/2023/07/18/pencurian-kejahatan-paling-banyak-di-indonesia-sampai-april-2023>. [Accessed 20 November 2023].
- 4] T. K. Yuniarto, "Market Insight: Hingga September 2023, Penjualan Motor Listrik Capai 4,7 Juta Unit," Marketeers, 26 October 2023. [Online]. Available: <https://www.marketeers.com/hingga-september-2023-penjualan-motor-listrik-capai-47-juta-unit/>. [Accessed 9 January 2024].
- 5] AUTO2000, "Berita & Tips: Bagaimana Cara Kerja GPS Mobil?," AUTO2000, 20 May 2021. [Online]. Available: <https://auto2000.co.id/berita-dan-tips/cara-kerja-gps-mobil>. [Accessed 9 December 2023].
- 6] R. Soffya, "Hardware: Apa Itu Dashcam Mobil? Begini Fungsi dan Cara Kerjanya," Kompas.com, 7 October 2023. [Online]. Available: [https://tekno.kompas.com/read/2023/10/07/13300037/apa-itu-dashcam-mobil-begini-fungsi-dan-cara-kerjanya-#google\\_vignette](https://tekno.kompas.com/read/2023/10/07/13300037/apa-itu-dashcam-mobil-begini-fungsi-dan-cara-kerjanya-#google_vignette). [Accessed 8 July 2024].
- 7] S. Dr.MuhamadReza., R. B. Setiawan and S. SigitYuwono., "IMPLEMENTASISISTEMMONITORINGJARAKTEMPUHPADASEPEDAMOTORLISTRIK," in *e-Proceeding of Engineering*, Bagus, 2019.

- D. R. Elmansy, "Ideate: How to Use the Decision Matrix to Make Decisions?,"
- 8] Designorate, 29 May 2022. [Online]. Available: <https://www.designorate.com/decision-matrix-decision-making/>. [Accessed 10 December 2023].
- E. A. Siddiq and H. Effendi, "Sistem Monitoring Sepeda Motor Berbasis
- 9] Mikrokontroler," JTEV (JURNAL TEKNIK ELEKTRO DAN VOKASIONAL), Padang, 2020.
- J. Carlsen, "personal-safety: Best Bluetooth Trackers of 2024," SafeWise, [Online].
- 10] Available: [https://www.safewise.com/best-bluetooth-trackers/#:~:text=The%20E3%80%90153%E2%80%A0Pebblebee%20Clip%E2%80%A0www,C%20cable.%0A%0A%5BImage%2082%3A%20pro](https://www.safewise.com/best-bluetooth-trackers/#:~:text=The%20E3%80%90153%E2%80%A0Pebblebee%20Clip%E2%80%A0www,C%20cable.%0A%0A%5BImage%2082%3A%20pro.). [Accessed 9 January 2024].
- CARTRACK TECHNOLOGIES INDONESIA, "id: 2 Faktor Utama yang
- 11] Memengaruhi Akurasi GPS Pelacak Kendaraan," PT CARTRACK TECHNOLOGIES INDONESIA, 25 October 2021. [Online]. Available: <https://www.cartrack.id/id/2-faktor-utama-yang-memengaruhi-akurasi-gps-pelacak-kendaraan>. [Accessed 9 January 2024].
- Yuda, "sensor-tegangan," Madengineer, 8 July 2024. [Online]. Available:
- 12] <https://madengineer.com/sensor-tegangan/>. [Accessed 19 July 2024].
- S. S. P. P. Ferdy, "Perancangan Sistem Monitoring Sepeda Motor Menggunakan
- 13] Modul GPS Berbasis Android," in *e-Proceeding of Engineering*, Bandung, 2018.
- 14]
- K. A. P. A. L. Peter, "Inertial Tracking for Mobile Augmented Reality," *IEEE*
- 15] *Instrumentation and Measurement*.
- N. R. D. d. N. D. T. P. Yunanda, "Perancangan GPS Tracking untuk Penyewaan
- 16] Kendaraan Bermotor," in *e-Proceeding of Applied Science*, 2020.
- S. Gischa, "GPS: Kapanjangan, Pengertian, Fungsi, dan Cara Kerjanya Halaman all
- 17] - Kompas.com," KOMPAS.com, 05 Juli 2023. [Online]. Available:

<https://www.kompas.com/skola/read/2023/07/05/200000669/gps--kepanjangan-pengertian-fungsi-dan-cara-kerjanya?page=all> .

- 18] A. Rusyid, "GSM: Pengertian, Fungsi, manfaat," El Samara, 7 Februari 2023. [Online]. Available: <https://elsamara.id/gsm-pengertian-fungsi-manfaat/S..>
- 19] M. R. d. S. Y. R. B. Setiawan, "Implementasi Sistem Monitoring Jarak Tempuh Pada Sepeda Motorlistrik," in *e-Proceeding of Engineering*, 2019.
- 20] "E. LAMPRECHT," CF BLOG, 2 Juni 2023. [Online]. Available: [https://careerfoundry.com/en/blog/ux-design/the-difference-between-ux-and-ui-design-a-laymans-guide/#:~:text=1.-,UX%20vs.%20UI%20design,product%20and%20work%20closely%20together](https://careerfoundry.com/en/blog/ux-design/the-difference-between-ux-and-ui-design-a-laymans-guide/#:~:text=1.-,UX%20vs.%20UI%20design,product%20and%20work%20closely%20together.). [Accessed 10 Januari 2024].
- 21] "D," Dei's Blog, 22 April 2023. [Online]. Available: <https://blognadei.com/sketch-figma-atau-adobexd-pilih-mana/>. [Accessed 10 Januari 2024].
- 22] S. Ningtyas, "Niagahoster Blog," Niagahoster, 24 September 2020. [Online]. Available: <https://www.niagahoster.co.id/blog/css-framework-terbaik/>. [Accessed 10 Januari 2024].
- 23] "Coding Studio Academy," PT Semua Mahir Teknologi (SMART), [Online]. Available: <https://codingstudio.id/blog/framework-terbaik-tahun-2020/>. [Accessed 10 Januari 2024].
- 24] N. Zaidi, "Waltorn," Waltorn, [Online]. Available: <https://www.waltorn.com/insights/top-10-backend-frameworks-for-web-development>. [Accessed Januari 2024].
- 25] K. d. p. Wikimedia, "Baterai listrik.," Wikipedia Bahasa Indonesia, 19 mei 2019. [Online]. Available: [https://id.wikipedia.org/wiki/Baterai\\_listrik](https://id.wikipedia.org/wiki/Baterai_listrik).
- 26] K. d. p. Wikimedia, "Sistem tenaga listrik," Wikipedia Bahasa Indonesia, 15 September 2023. [Online]. Available: [https://id.wikipedia.org/wiki/Sistem\\_tenaga\\_listrik](https://id.wikipedia.org/wiki/Sistem_tenaga_listrik).

- Frans, "Articles: Mengenal Apa Itu IC Regulator : Pengertian, Fungsi dan Cara Kerja," Anak Teknik Indonesia, 20 April 2022. [Online]. Available: <https://www.anakteknik.co.id/rahasia1/articles/mengenal-apa-itu-ic-regulator-pengertian-fungsi-dan-cara-kerja>.
- Gurumuda, "Elektro: Prinsip kerja generator listrik," Gurumuda, [Online]. Available: <https://gurumuda.net/elektro/prinsip-kerja-generator-listrik.htm>. [Accessed 1 Agustus 2024].
- Shenzhen Kinmore Motor Co., Ltd., "Products: RS-770/775H," Shenzhen Kinmore Motor Co., Ltd., [Online]. Available: <https://kinmore.com/products/rs-770-775h/>. [Accessed 03 August 2024].
- Brontoseno, "product: PG45 500Rpm 25kgfcm 60W 7ppr encoder," Brontoseno Manufacture Robot Industry, 11 May 2024. [Online]. Available: <https://www.brontoseno.com/product/pg45-500rpm-25kgfcm-60w-7ppr-encoder/>. [Accessed 2 August 2024].
- Mantech Electronics, "GY-NEO6MV2 GPS Module Datasheet," [Online]. Available: <https://www.mantech.co.za/datasheets/products/GY-NEO6MV2.pdf>. [Accessed 1 August 2024].
- Espressif Systems (Shanghai) Co., Ltd., "documentation: ESP32 Series Datasheet," [Online]. Available: [https://www.espressif.com/sites/default/files/documentation/esp32\\_datasheet\\_en.pdf](https://www.espressif.com/sites/default/files/documentation/esp32_datasheet_en.pdf). [Accessed 1 August 2024].
- botland, "withdrawn-products: Module GSM GPRS - SIM800L," botland, [Online]. Available: <https://botland.store/withdrawn-products/8891-module-gsm-gprs-sim800l.html#:~:text=The%20module%20operates%20at%20850,speeds%20up%20to%2085.6%20kbps>. [Accessed 1 August 2024].
- Microchip Technology Inc., "MCP2515 Stand-Alone CAN Controller with SPI Interface," [Online]. Available: <https://ww1.microchip.com/downloads/en/DeviceDoc/MCP2515-Stand-Alone-CAN-Controller-with-SPI-20001801J.pdf>. [Accessed 1 August 2024].

- Philips Semiconductors, "TJA1050," [Online]. Available:  
 35] <https://www.nxp.com/docs/en/data-sheet/TJA1050.pdf>. [Accessed 1 August 2024].
- Amazon, "TECNOIOT: 1pcs 5V 3A 18650 UPS Uninterruptible Power Supply  
 36] Lithium Battery Charger," Amazon.com, [Online]. Available:  
<https://www.amazon.co.uk/TECNOIOT-Uninterruptible-Lithium-Battery-Charger/dp/B0B6SP2ZFJ>. [Accessed 1 August 2024].
- tokopedia, "Lainnya: BATERAI 18650 ORIGINAL LG HG2 18650 3000Mah  
 37] BATTERY REAL CAPASITY," tokopedia, [Online]. Available:  
<https://www.tokopedia.com/cncstorebandung/baterai-18650-original-lg-hg2-18650-3000mah-battery-real-capacity>. [Accessed 1 August 2024].
- ICHIBOT, "product: Sensor Tegangan DC 0-25v Voltage Sensor Divider DC 0-  
 38] 25V," ICHIBOT, [Online]. Available: <https://store.ichibot.id/product/sensor-tegangan-dc-0-25v-voltage-sensor/>. [Accessed 1 August 2024].
- J. V. Hutagaol, D. Setiawan and H. Eteruddin, "Perancangan Sistem Monitoring  
 39] Kendaraan Listrik," *Jurnal Teknik*, no. Jurnal Teknik, pp. 96-102, 2022.
- LastMinuteEngineers.com, "ESP32: How to Build a CAN Bus With ESP32,"  
 40] LastMinuteEngineers.com, 3 May 2024. [Online]. Available:  
[https://lastminuteengineers.com/esp32-can-bus-tutorial/#google\\_vignette](https://lastminuteengineers.com/esp32-can-bus-tutorial/#google_vignette). [Accessed 24 July 2024].
- Anggi, "Marketing & Manajemen: Beta Testing Adalah: Pengertian dan Bedanya  
 41] dengan Alpha Testing," PT Cipta Piranti Sejahtera, 8 March 2021. [Online]. Available:  
<https://accurate.id/marketing-manajemen/beta-testing-adalah/>. [Accessed 18 July 2024].
- J. Browniee, "Data Preparation: How to Prepare Data For Machine Learning,"  
 42] Guiding Tech Media, 16 August 2020. [Online]. Available:  
<https://machinelearningmastery.com/how-to-prepare-data-for-machine-learning/>.  
 [Accessed 18 July 2024].
- I. N. Akbar, M. R. S. Ramadhan, S. F. Suyatna and Y. Octaviani, "PENGUNAAN  
 43] MULTINODE SENSOR PADA SISTEM MONITORING SUHU MESIN BALL TEA

BERBASIS INTERNET OF THINGS," Universitas Telkom, S1 Teknik Fisika, Bandung, 2024.

F. A., "tutorial: Apa Itu Cron Job? Pengertian, Contoh, dan Panduannya Lengkap,"  
44] [hostinger.co.id](https://www.hostinger.co.id), 9 August 2023. [Online]. Available: <https://www.hostinger.co.id/tutorial/cron-job>. [Accessed 18 July 2024].

A. Nugroho, R. Jumardi and N. F. Ramadhania, "Penerapan Metode Haversine  
45] Formula Untuk Penentuan Titik Kumpul pada Aplikasi Tanggap Bencana," *METIK VOLUME. 4 NOMOR. 2 2020*, vol. 1.5, no. METIK JURNAL, pp. 70-72, 2020.

PT Revolusi Cita Edukasi, "Kosakata: Beta Testing," PT Revolusi Cita Edukasi, 31  
46] July 2023. [Online]. Available: <https://revou.co/kosakata/beta-testing#:~:text=itu%20Beta%20Testing%3F-,Beta%20testing%20adalah%20proses%20pengujian%20software%20yang%20dilakukan%20oleh%20end,ditemukan%20selama%20tahap%20awal%20pengembangan>. [Accessed 18 July 2024].

PT Revolusi Cita Edukasi., "Kosakata: Alpha Testing," PT Revolusi Cita Edukasi.,  
47] 27 July 2023. [Online]. Available: <https://revou.co/kosakata/alpha-testing>. [Accessed 18 July 2024].

N. Rahmalia, "Tech & Data: Machine Learning: Definisi, Bedanya dengan AI, dan  
48] Tips Mempelajarinya," *glints*, 13 February 2023. [Online]. Available: <https://glints.com/id/lowongan/machine-learning/>. [Accessed 18 July 2024].

terra.com, "Articles: Bluetooth trackers VS GPS trackers: What's the difference,"  
49] terra.com, 8 April 2019. [Online]. Available: <https://www.spotypal.com/blog/bluetooth-tracker-vs-gps-tracker/>. [Accessed 9 January 2024].

b. "Institusi TNI: Pelaku Pencuri Sepeda Motor Listrik Berhasil Diamankan Babinsa  
50] Ciborelang bersama Kepolisian," *Media Mitra TNI Polri*, 23 December 2023. [Online]. Available: <https://mitratnipolri.com/pelaku-pencuri-sepeda-motor-listrik-berhasil-diamankan-babinsa-ciborelang-bersama-kepolisian/>. [Accessed 9 July 2024].

R. C., "GPSTracker247: GPS Tracker Vs. Bluetooth Tracker – A Comprehensive  
51] Comparison," *Shopify*, 16 September 2022. [Online]. Available: <https://www.gpstracker247.com/comparison/gps-tracker-vs-bluetooth>

