

DAFTAR PUSTAKA

- [1] S. K. Singh, "Control and Modelling of Brushless DC Motor," dalam *2024 3rd International conference on Power Electronics and IoT Applications in Renewable Energy and its Control (PARC)*, Mathura, India: IEEE, Feb 2024, hlm. 286–291. doi: 10.1109/PARC59193.2024.10486343.
- [2] M. Hojati, S. C. Mukhopadhyay, R. Han, dan F. Taghizadeh, "Measurement of Parameters of BLDC Motor under Various Conditions for Autonomous Vehicles Applications," dalam *2023 16th International Conference on Sensing Technology (ICST)*, HYDERABAD, India: IEEE, Des 2023, hlm. 1–6. doi: 10.1109/ICST59744.2023.10460857.
- [3] L. J. Zhang, Q. Y. Zhu, Z. H. Shen, dan P. P. Lv, "Research on Real-Time Monitoring System for Traction Motor of EMUs," *Adv. Mater. Res.*, vol. 898, hlm. 904–909, Feb 2014, doi: 10.4028/www.scientific.net/AMR.898.904.
- [4] R. J. Markle dan E. Coss, "Data requirements and communication issues for advanced process control," *J. Vac. Sci. Technol. Vac. Surf. Films*, vol. 19, no. 4, hlm. 1241–1247, Jul 2001, doi: 10.1116/1.1380225.
- [5] M. Karthika dan K. C. R. Nisha, "Torque Ripple Reduction Control Strategies of Sensor and Sensorless BLDC Motor: A Review," dalam *ICDSMLA 2021*, vol. 947, A. Kumar, S. Senatore, dan V. K. Gunjan, Ed., dalam *Lecture Notes in Electrical Engineering*, vol. 947, Singapore: Springer Nature Singapore, 2023, hlm. 681–692. doi: 10.1007/978-981-19-5936-3_63.
- [6] T. Y. Albuston dan I. K. Wiryajati, "RANCANG BANGUNG SISTEM MONITORING MOTOR BRUSHLESS DIRECT CURRENT (BLDC) BERBASIS ANDROID".
- [7] N. S. Azizah, F. Adriyanto, dan J. S. Saputro, "Development of Control and Monitoring of BLDC Motor Speed without Sensor with Back Emf Detection," *J. Electr. Electron. Inf. Commun. Technol.*, vol. 5, no. 1, hlm. 1, Mei 2023, doi: 10.20961/jeeict.5.1.66698.
- [8] B. Lorenza, "Monitoring Kecepatan Motor BLDC dengan Beban Rem Magnetik." 2019.
- [9] M. A. H. Ashari, A. Rusdinar, dan P. Pangaribuan, "SISTEM MONITORING DAN MANAJEMEN BATERAI PADA MOBIL LISTRIK".
- [10] F. Irsyadi, M. Arrofiq, B. Sumanto, dan M. S. P, "Perancangan dan Implementasi Sistem Monitoring Kecepatan Motor BLDC Hub Bergir pada Sepeda Listrik," *JST J. Sains Terap.*, vol. 7, no. 1, Apr 2021, doi: 10.32487/jst.v7i1.974.
- [11] A. Fatoni, "PENGAPLIKASIAN DC-DC BOOST CONVERTER DAN MONITORING MOTOR BLDC 350 WATT PADA MOBIL LISTRIK ECRC-UMS BERBASIS INTERNET OF THINGS (IoT)".
- [12] T. Hadi Saputro, F. Faizah, dan Lady Silk Moonlight, "DESIGN OF CONTROL AND MONITORING OF BRUSHLESS DIRECT CURRENT (BLDC) MOTOR ON CONVEYOR USING BLUETOOTH BASED ON STM 32," *Proceeding Int. Conf. Adv. Transp. Eng. Appl. Soc. Sci.*, vol. 2, no. 1, hlm. 954–961, Nov 2023, doi: 10.46491/icateas.v2i1.1766.



- [13] F. Pangerang dan B. Prasetyo, “KONTROL KECEPATAN BRUSHLESS DC MOTOR (BLDC) DENGAN PID BERBASIS MIKROKONTROLER,” 2022.
- [14] Nurizka Fitra Maula, Sofian Yahya, dan Sofyan Muhammad Ilman, “Perancangan dan Simulasi Kendali Kecepatan Motor BLDC dengan Metode PID Menggunakan Teknik Tanpa Sensor Berbasis Simulink MatLab,” *Pros. Ind. Res. Workshop Natl. Semin.*, vol. 15, no. 1, hlm. 461–465, Agu 2024, doi: 10.35313/irwns.v15i1.6205.
- [15] H. P. Nuryadin dan F. Faizah, “PENGATURAN KECEPATAN MOTOR BLDC DENGAN METODE PID BERBASIS ARDUINO UNO SEBAGAI MEDIA PEMBELAJARAN DI POLITEKNIK PENERBANGAN SURABAYA,” 2020.
- [16] B. P. Putri, S. Sutedjo, O. A. Qudsi, dan L. S. Mahendra, “Alat Penstabil Kecepatan Motor BLDC Menggunakan Kontrol PID,” *Emit. J. Tek. Elektro*, vol. 22, no. 2, hlm. 134–140, Agu 2022, doi: 10.23917/emitor.v22i2.19384.
- [17] R. F. Anugrah dan B. Y. Dewantara, “Kontrol Motor Brushless DC Menggunakan Six Step Comutation dengan Kontrol PID (Proportional Integral,” vol. 7, no. 2, 2020.
- [18] P. B. Megantoro, I. Anshory, dan I. Sulistiyowati, “Design and Simulation of PID Speed Controller on BLDC Motor”.
- [19] Y. A. Nasution, “RANCANG BANGUN MONITORING MOTOR BRUSHLESS DC BERBASIS INTERNET OF THINGS (IOT) DENGAN KONTROL FUZZY LOGIC,” vol. 09, 2020.
- [20] R. Dwirahayu dan B. Setiyono, “PERANCANGAN KONTROLER LOGIKA FUZZY BERBASIS MIKROKONTROLER ATMEGA32 SEBAGAI KENDALI KECEPATAN MOTOR BRUSHLESS DC (BLDC)”.
- [21] R. Pradhana, A. A. Rahman, O. A. Qudsi, dan I. Ferdiansyah, “Desain dan Implementasi Pengaturan Kecepatan Motor BLDC Dengan Metode FOC Menggunakan Fuzzy,” *JTT J. Teknol. Terpadu*, vol. 11, no. 1, hlm. 33–39, Apr 2023, doi: 10.32487/jtt.v11i1.1524.
- [22] H. Suryoatmojo dan D. Fahmi, “DESAIN DAN SIMULASI KONTROL KECEPATAN MOTOR BLDC MENGGUNAKAN METODE FUZZY – PID CONTROLLER UNTUK APLIKASI SEPEDA MOTOR LISTRIK,” 2018.
- [23] W. Widhiada, M. Widiyarta, dan K. P. A. Utama, “Performansi Sistem Pengendali Kecepatan Motor BLDC Menggunakan Logika Fuzzy Logic,” *J. METTEK*, vol. 6, no. 1, hlm. 11, Apr 2020, doi: 10.24843/METTEK.2020.v06.i01.p02.
- [24] C. H. B. Apriboyo, M. Ahmad, dan H. Maghfiroh, “Fuzzy Logic Controller and Its Application in Brushless DC Motor (BLDC) in Electric Vehicle - A Review,” *J. Electr. Electron. Inf. Commun. Technol.*, vol. 3, no. 1, hlm. 35, Apr 2021, doi: 10.20961/jeeict.3.1.50651.
- [25] S.-H. Kim, “Brushless direct current motors,” dalam *Electric Motor Control*, Elsevier, 2017, hlm. 389–416. doi: 10.1016/B978-0-12-812138-2.00010-6.
- [26] P. J. Zhao dan Y. Yu, “Brushless DC Motor Fundamentals Application Note,” 2014.



- [27] A. Tashakori Abkenar dan M. Motamed Ektesabi, “Direct Torque Control of In-Wheel BLDC Motor Used in Electric Vehicle,” dalam *IAENG Transactions on Engineering Technologies*, vol. 229, G.-C. Yang, S. Ao, dan L. Gelman, Ed., dalam *Lecture Notes in Electrical Engineering*, vol. 229. , Dordrecht: Springer Netherlands, 2013, hlm. 273–286. doi: 10.1007/978-94-007-6190-2_21.
- [28] V. Verma, N. S. Pal, dan B. Kumar, “Speed Control of the Sensorless BLDC Motor Drive Through Different Controllers,” dalam *Harmony Search and Nature Inspired Optimization Algorithms*, vol. 741, N. Yadav, A. Yadav, J. C. Bansal, K. Deep, dan J. H. Kim, Ed., dalam *Advances in Intelligent Systems and Computing*, vol. 741. , Singapore: Springer Singapore, 2019, hlm. 143–152. doi: 10.1007/978-981-13-0761-4_15.
- [29] J. F. Gieras, “PERMANENT MAGNET MOTOR TECHNOLOGY”.
- [30] P. Narvekar, R. Pandey, A. Sawant, dan H. Kasturiwale, “Design and Development of Motor Speed Controller Using Brushless Direct Current Hub Motor for Electric Two-Wheeler,” dalam *Computing and Communications Engineering in Real-Time Application Development*, 1 ed., Boca Raton: Apple Academic Press, 2022, hlm. 9–19. doi: 10.1201/9781003277217-2.
- [31] R. B. Standler, *Protection of Electronic Circuits from Overvoltages*. Courier Corporation, 2002.
- [32] J. Fraden, “Interface Electronic Circuits,” dalam *Handbook of Modern Sensors*, New York, NY: Springer New York, 2010, hlm. 173–246. doi: 10.1007/978-1-4419-6466-3_5.
- [33] G. Klaus, *Stator Core End Region Heating of Air Cooled Turbine*. VDM Verlag Dr. Müller, 2010.
- [34] M. Kashmiri, “Current Sensing Techniques: Principles and Readouts,” dalam *Next-Generation ADCs, High-Performance Power Management, and Technology Considerations for Advanced Integrated Circuits*, A. Baschirotto, P. Harpe, dan K. A. A. Makinwa, Ed., Cham: Springer International Publishing, 2020, hlm. 143–165. doi: 10.1007/978-3-030-25267-0_9.
- [35] J. Xie, S. Zhang, dan Z. Yao, “Modeling and Simulation of Control Systems for Brushless DC Motor Based on Hall Sensor,” dalam *Advances in Guidance, Navigation and Control*, vol. 845, L. Yan, H. Duan, dan Y. Deng, Ed., dalam *Lecture Notes in Electrical Engineering*, vol. 845. , Singapore: Springer Nature Singapore, 2023, hlm. 6534–6546. doi: 10.1007/978-981-19-6613-2_630.
- [36] L. Zhu, “Digital Temperature Measurement System Based on Oscillator,” dalam *Advances in Computer Science and Information Engineering*, vol. 169, D. Jin dan S. Lin, Ed., dalam *Advances in Intelligent and Soft Computing*, vol. 169. , Berlin, Heidelberg: Springer Berlin Heidelberg, 2012, hlm. 461–466. doi: 10.1007/978-3-642-30223-7_72.
- [37] C. Gu, “System on Programmable Chip (SOPC),” dalam *Building Embedded Systems*, Berkeley, CA: Apress, 2016, hlm. 233–248. doi: 10.1007/978-1-4842-1919-5_10.
- [38] S. Esposito dan M. Violante, “Mitigating Soft Errors in Processors Cores Embedded in System-on Programmable-Chips,” dalam *FPGAs and Parallel*



- Architectures for Aerospace Applications*, F. Kastensmidt dan P. Rech, Ed., Cham: Springer International Publishing, 2016, hlm. 219–238. doi: 10.1007/978-3-319-14352-1_15.
- [39] “PSoC® 5LP: CY8C58LP Family Datasheet Programmable System-on-Chip (PSoC®),” no. 001.
- [40] “PSoC Creator User Guide,” no. 001.
- [41] Espressif Systems, “ESP32 Series Datasheet.” 2025.
- [42] W. Nawrocki dan T. Nawalaniec, “Sensors and communications in environment monitoring systems,” dalam *Strategies to Enhance Environmental Security in Transition Countries*, R. N. Hull, C.-H. Barbu, dan N. Goncharova, Ed., dalam NATO Science for Peace and Security Series C: Environmental Security. , Dordrecht: Springer Netherlands, 2007, hlm. 153–165. doi: 10.1007/978-1-4020-5996-4_12.
- [43] L. Xie, F. Hang, Y. Lv, dan W. Guo, “Research on Data Security Protection System of Monitoring and Acquisition System Based on Block Chain Technology,” dalam *Advances in Artificial Intelligence and Security*, vol. 1424, X. Sun, X. Zhang, Z. Xia, dan E. Bertino, Ed., dalam Communications in Computer and Information Science, vol. 1424. , Cham: Springer International Publishing, 2021, hlm. 502–513. doi: 10.1007/978-3-030-78621-2_42.
- [44] K. Murti, “Real-Time Systems,” dalam *Design Principles for Embedded Systems*, dalam Transactions on Computer Systems and Networks. , Singapore: Springer Singapore, 2022, hlm. 155–187. doi: 10.1007/978-981-16-3293-8_6.
- [45] D. H. Morais, “Data Communication Systems Protocol Stacks,” dalam *5G NR, Wi-Fi 6, and Bluetooth LE 5*, Cham: Springer Nature Switzerland, 2023, hlm. 9–15. doi: 10.1007/978-3-031-33812-0_2.
- [46] B. A. Forouzan dan S. C. Fegan, *Data communications and networking*, 4th ed. dalam McGraw-Hill Forouzan networking series. New York: McGraw-Hill Higher Education, 2007.
- [47] W. Stallings, “Data and Computer Communications (Eighth Edition)”.
- [48] C.-C. Wong dan Y.-H. Li, “A Reusable UART IP Design and its Application in Mobile Robots,” dalam *Mobile Robotics, Moving Intelligence*, J. Buchli, Ed., Pro Literatur Verlag, Germany / ARS, Austria, 2006. doi: 10.5772/4719.
- [49] D. V. Gadre dan S. Gupta, “Universal Asynchronous Receiver and Transmitter (UART),” dalam *Getting Started with Tiva ARM Cortex M4 Microcontrollers*, New Delhi: Springer India, 2018, hlm. 151–167. doi: 10.1007/978-81-322-3766-2_12.
- [50] G. R. Wilson, “Input and output ports,” dalam *Embedded Systems and Computer Architecture*, Elsevier, 2002, hlm. 138–147. doi: 10.1016/B978-075065064-9/50010-9.
- [51] “Baud Rate - an overview | ScienceDirect Topics.” Diakses: 1 Juni 2025. [Daring]. Tersedia pada: <https://www.sciencedirect.com/topics/engineering/ baud-rate>
- [52] D. D. Vo, V. A. Pham, P. H. Nguyen, dan D. A. Nguyen, “Designing a PID Controller for Ship Autopilot System,” dalam *AETA 2018 - Recent Advances*



- in Electrical Engineering and Related Sciences: Theory and Application*, vol. 554, I. Zelinka, P. Brandstetter, T. Trong Dao, V. Hoang Duy, dan S. B. Kim, Ed., dalam *Lecture Notes in Electrical Engineering*, vol. 554., Cham: Springer International Publishing, 2020, hlm. 618–627. doi: 10.1007/978-3-030-14907-9_60.
- [53] M. Issa, A. A. Elbaset, A. E. Hassanien, dan I. Ziedan, “PID Controller Tuning Parameters Using Meta-heuristics Algorithms: Comparative Analysis,” dalam *Machine Learning Paradigms: Theory and Application*, vol. 801, A. E. Hassanien, Ed., dalam *Studies in Computational Intelligence*, vol. 801., Cham: Springer International Publishing, 2019, hlm. 413–430. doi: 10.1007/978-3-030-02357-7_20.
- [54] E. Flores-Morán, W. Yáñez-Pazmiño, L. Espin-Pazmiño, M. Molina-Miranda, dan C. Guzmán-Real, “PID and Fuzzy Logic Controllers for DC Motor Speed Control,” dalam *Computer and Communication Engineering*, vol. 959, M. Botto-Tobar, J. Barzola-Monteses, E. Santos-Baquerizo, M. Espinoza-Andaluz, dan W. Yáñez-Pazmiño, Ed., dalam *Communications in Computer and Information Science*, vol. 959., Cham: Springer International Publishing, 2019, hlm. 155–168. doi: 10.1007/978-3-030-12018-4_12.
- [55] P. Ganguly, A. Kalam, dan A. Zayegh, “Modelling of an Optimum Fuzzy Logic Controller Using Genetic Algorithm,” dalam *Modelling and Simulation in Science, Technology and Engineering Mathematics*, vol. 749, S. Chattopadhyay, T. Roy, S. Sengupta, dan C. Berger-Vachon, Ed., dalam *Advances in Intelligent Systems and Computing*, vol. 749., Cham: Springer International Publishing, 2019, hlm. 327–337. doi: 10.1007/978-3-319-74808-5_28.
- [56] S. Siddula, V. Yashwanth, V. C. Kumar, P. Raju, V. Bhavani, dan C. H. V. Sivakumar, “Electric Vehicle Energy Management System Using Fuzzy Logic Controller,” dalam *Proceedings of Fifth International Conference on Computer and Communication Technologies*, vol. 898, B. R. Devi, K. Kumar, M. Raju, K. S. Raju, dan M. Sellathurai, Ed., dalam *Lecture Notes in Networks and Systems*, vol. 898., Singapore: Springer Nature Singapore, 2024, hlm. 193–203. doi: 10.1007/978-981-99-9707-7_18.
- [57] B. J. Jansen, K. K. Aldous, J. Salminen, H. Almerexhi, dan S. Jung, “A Discussion of the Validity of Data Analytics,” dalam *Understanding Audiences, Customers, and Users via Analytics*, dalam *Synthesis Lectures on Information Concepts, Retrieval, and Services.*, Cham: Springer Nature Switzerland, 2024, hlm. 139–145. doi: 10.1007/978-3-031-41933-1_12.
- [58] P. K. M. Masenya dan S. Ismail, “Modeling and Simulation of Reliability of Networked and Distributed Systems: A Case Data Reliability Model,” *Int. J. Recent Eng. Sci.*, vol. 10, no. 4, hlm. 14–18, Agu 2023, doi: 10.14445/23497157/IJRES-V10I4P103.
- [59] B. Santhosh Kumar, Ed., *Data Integrity and Data Governance*. IntechOpen, 2023. doi: 10.5772/intechopen.100778.

