

## Daftar Pustaka

- [1] X. Nian, F. Peng, and H. Zhang, "Regenerative braking system of electric vehicle driven by brushless DC motor," *IEEE Trans. Ind. Electron.*, vol. 61, no. 10, pp. 5798–5808, 2014, doi: 10.1109/TIE.2014.2300059.
- [2] O. C. Kivanc, O. Ustun, G. Tosun, and R. N. Tuncay, "On Regenerative Braking Capability of BLDC Motor," pp. 1710–1715, 2016.
- [3] J. Cody, Ö. Göl, Z. Nedic, A. Nafalski, and A. Mohtar, "Regenerative braking in an electric vehicle," *Zesz. Probl. – Masz. Elektr.*, no. 81, pp. 113–118, 2009.
- [4] L. C. and M. E. Yimin Gao, *Investigation of the Effectiveness of Regenerative Braking for EV and HEV*. SAE International, 1999.
- [5] W. Electric and V. Journal, "Page 0017," vol. 3, pp. 17–26, 2009.
- [6] J. W. Dixon, M. Ortúzar, and E. Wiechmann, "Regenerative braking for an electric vehicle using ultracapacitores and a buck-boost converter," *17th Electr. Veh. Symp.*, no. May 2014, 2002.
- [7] A. Emadi, *Battery technology for automotive applications*. 2017.
- [8] W. Hong, W. Lee, and B. K. Lee, "Dynamic simulation of brushless DC motor drives considering phase commutation for automotive applications," *Proc. IEEE Int. Electr. Mach. Drives Conf. IEMDC 2007*, vol. 2, pp. 1377–1383, 2007, doi: 10.1109/IEMDC.2007.383630.
- [9] S. S. Bharatkar, R. Yanamshetti, D. Chatterjee, and A. K. Ganguli, "Performance Comparison of an efficient IM Controller and BLDC Drive for Vehicular Applications," vol. 1, no. 2, pp. 187–193, 2010.
- [10] J. N. A. Raju Yanamshetti, "Microcontroller Controlled BLDC Drive for Electric Vehicle," vol. 1, no. 10, pp. 1–4, 2012.
- [11] O. C. Kivanc and O. Ustun, "Investigation of regenerative braking performance of brushless direct current machine drive system," *Appl. Sci.*, vol. 11, no. 3, pp. 1–14, 2021, doi: 10.3390/app11031029.
- [12] Mehrdad Ehsani ... [et al.], *Modern Electric, Hybrid Electric, and Fuel Cell Vehicles : Fundamentals, Theory, and Design*. 1369.
- [13] L. J. Larminie, James, *Electric Vehicle Technology Explained, Second Edition*. John Wiley & Sons Ltd, 2012.

- [14] E. H. Wakefield, *History of the Electric Automobile: Battery-Only Powered Cars*. Society of Automotive Engineers, 1993.
- [15] A. Emadi, *Advanced Electric Drive Vehicles*. 2014.
- [16] Y. Gao and M. Ehsani, "Investigation of battery technologies for the army's hybrid vehicle application," *IEEE Veh. Technol. Conf.*, vol. 56, no. 3, pp. 1505–1509, 2002, doi: 10.1109/vetecf.2002.1040467.
- [17] P. D. A. N. Perawatannya, "Akumulator, Pemakaian Dan Perawatannya," *Metana*, vol. 11, no. 01, 2015, doi: 10.14710/metana.v11i01.12579.
- [18] M. Latif, R. Nazir, and H. Reza, "Analisa Proses Charging Akumulator Pada Prototipe Turbin Angin Sumbu Horizontal Di Pantai Purus Padang," *J. Nas. Tek. Elektro*, vol. 2, no. 1, pp. 1–8, 2013, doi: 10.20449/jnte.v2i1.91.
- [19] B. C. Siburian, I. T. A. Bahriun, and M. Sc, "Perancangan Alat Pengisi Baterai Lead Acid Berbasis Mikrokontroler Atmega 8535," *Singuda ENSIKOM*, vol. 13, no. 35, pp. 42–48, 2015.
- [20] I. Susanti, R. Rumiasih, C. RS, and A. Firmansyah, "Pengisiannya Pada Mobil Listrik," *Elektra*, vol. 4, no. 2, pp. 29–37, 2019.
- [21] Z. Z. Z. Putra, Hartono, and Kustori, "Sistem Pengisian Baterai Sekunder Secara Otomatis Berbasis Microcontroller Sebagai Media Pembelajaran Dilaboratorium Politeknik Penerbangan Surabaya," *Pros. Semin. Nas. Inov. Teknol. Penerbangan*), vol. 3, no. 1, 2019.
- [22] N. M. A. Wijaya, K. I. N. S., P. C. G. I., and Y. Divayana, "Perkembangan Baterai Dan Charger Untuk Mendukung," no. February, 2021, doi: 10.24843/SPEKTRUM.2021.v08.i01.p3.
- [23] M. Thowil Afif and I. Ayu Putri Pratiwi, "Analisis Perbandingan Baterai Lithium-Ion, Lithium-Polymer, Lead Acid dan Nickel-Metal Hydride pada Penggunaan Mobil Listrik - Review," *J. Rekayasa Mesin*, vol. 6, no. 2, pp. 95–99, 2015, doi: 10.21776/ub.jrm.2015.006.02.1.
- [24] I. Suhendra, A. Rudinar, and M. A. Murti, "Baterai Otomatis Pada Mobil Listrik Bebas Iot Design and Implementation Automatic Charging System," vol. 6, no. 2, pp. 1–8, 2019.
- [25] Y. Lyu, A. R. M. Siddique, S. H. Majid, M. Biglarbegian, S. A. Gadsden, and S. Mahmud, "Electric vehicle battery thermal management system with

- thermoelectric cooling,” *Energy Reports*, vol. 5. pp. 822–827, 2019, doi: 10.1016/j.egy.2019.06.016.
- [26] H. Uesato, H. Miyaoka, T. Ichikawa, and Y. Kojima, “Hybrid nickel-metal hydride/hydrogen battery,” *Int. J. Hydrogen Energy*, vol. 44, no. 8, pp. 4263–4270, 2019, doi: 10.1016/j.ijhydene.2018.12.114.
- [27] W. Budiman and N. Hariyanto, “Perancangan dan Realisasi Sistem Pengisian Baterai 12 Volt 45 Ah pada Pembangkit Listrik Tenaga Pikohidro di UPI Bandung,” *J. Reka Elkomika*, vol. 2, no. 1, pp. 1–12, 2014.
- [28] F. Aswardi, Elfizon, “Sistem Pengisian Baterai pada Mobil Listrik,” *Semin. Nas. Tek. Elektro*, vol. 56, no. 3, pp. 141–145, 2018.
- [29] D. Saptono, “Sistem Pengisian Aki 12 DC Menggunakan Algoritma MPPT Berbasis Arduino Uno,” vol. 7, pp. 1–6.
- [30] R. F. Anugrah, “Kontrol Kecepatan Motor Brushless DC Menggunakan Six Step Comutation Dengan Kontrol PID ( Propotional Integral Derivative ),” *J. Tek. Elektro dan Komput. TRIAC*, vol. 7, no. 2, pp. 57–63, 2020, doi: 10.21107/triac.v7i2.7923.
- [31] R. Mulyadi, K. D. Artika, and M. Khalil, “Perancangan Sistem Kelistrikan Perangkat Elektronik Pada Mobil Listrik,” *Elem. J. Tek. Mesin*, vol. 6, no. 1, p. 07, 2019, doi: 10.34128/je.v6i1.85.
- [32] R. Setiawan, “Prototipe Mobil Listrik Menggunakan Brushless Motor Dc 350 Watt,” 2016.
- [33] D. Irawan and P. Perdana SS, “Kontrol Motor Brushless DC (BLDC) Berbasis Algoritma AI - PID,” *J. Tek. Elektro dan Komputasi*, vol. 2, no. 1, pp. 41–48, 2020, doi: 10.32528/elkom.v2i1.3146.
- [34] C.-L. Xia, “Speed Control for BLDC Motor Drives,” *Perm. Magn. Brushless DC Mot. Drives Control.*, no. March, pp. 83–126, 2012, doi: 10.1002/9781118188347.ch4.
- [35] D. Akbar and S. Riyadi, “Pengaturan Kecepatan Pada Motor Brushless Dc (Bldc) Menggunakan Pwm (Pulse Width Modulation),” pp. 255–262, 2019, doi: 10.5614/sniko.2018.30.
- [36] B. Nainggolan, F. Inaswara, G. Pratiwi, and H. Ramadhan, “Rancang Bangun Sepeda Listrik Menggunakan Panel Surya Sebagai Pengisi Baterai,”

*Politeknologi*, vol. 15, no. 3, pp. 263–272, 2016.

- [37] A. Varshney, D. Gupta, and B. Dwivedi, “Speed response of brushless DC motor using fuzzy PID controller under varying load condition,” *J. Electr. Syst. Inf. Technol.*, vol. 4, no. 2, pp. 310–321, 2017, doi: 10.1016/j.jesit.2016.12.014.
- [38] R. Kandiban and R. Arulmozhiyal, “Speed control of BLDC motor using adaptive fuzzy PID controller,” *Procedia Eng.*, vol. 38, pp. 306–313, 2012, doi: 10.1016/j.proeng.2012.06.039.
- [39] S. Triwijaya, Y. Prasetyo, and T. Wati, “Kontrol Kecepatan Motor BLDC dengan PID - Firefly,” *J. IPTEK*, vol. 25, no. 1, pp. 51–58, 2021, doi: 10.31284/j.ipitek.2021.v25i1.963.
- [40] Q. Fitriyah, R. Aritha, H. Toar, and M. P. E. Wahyudi, “Alat Kendali Kecepatan Motor Pada Penggerak Depan Sepeda Listrik Di Politeknik Negeri Batam,” *J. Integr.*, vol. 12, no. 2, pp. 116–121, 2020, doi: 10.30871/ji.v12i2.2417.
- [41] J. Jatmiko, A. Basith, A. Ulinuha, M. A. Muhlasin, and I. S. Khak, “Analisis Peroforma Dan Konsumsi Daya Motor Bldc 350 W Pada Prototipe Mobil Listrik Ababil,” *Emit. J. Tek. Elektro*, vol. 18, no. 2, pp. 14–17, 2018, doi: 10.23917/emit.v18i2.6348.
- [42] R. A. D. APRESCO, “Perbandingan Unjuk Kerja Notor Brushless Direct Current Dan Brushed Dc Pada Nogogeni Urban Konsep,” vol. 0, pp. 1–71, 2017.
- [43] LAVITRY, RISER, FOURNY, and CAMPAN, “Brushless DC (BLDC) Motor Fundamentals,” *Bull. mémoires la Société*, vol. 69, no. 21–23, pp. 764–767, 1953.
- [44] S. Badri and K. Krismadinata, “Design of Boost Converter Integrated with Graphical User Interface,” *Motiv. J. Mech. Electr. Ind. Eng.*, vol. 2, no. 1, pp. 31–42, 2020, doi: 10.46574/motivection.v2i1.40.
- [45] U. Pembangunan *et al.*, “Rancang Bangun Inverter Gelombang Sinus Termodifikasi Pada Pembangkit Listrik Tenaga Surya,” 2020.
- [46] K. Ahadi, “Rancang Bangun Buck Converter 12 Volt 60 Ampere Menggunakan P-Channel Mosfet Dan Igbt Tipe N Design of 12 Volt 60

- Ampere Buck Converter Using P- Channel Mosfet and Igbt Type N,” vol. 11, no. 1, pp. 53–66, 2012.
- [47] B. Suh and B. City, “Comparison of IGBT and MOSFET Inverters in Low-Power BLDC Motor Drives Man-Kee.”
- [48] M. Akhila and P. Ratnan, “Analysis of Regenerative Braking In Brushless Dc Motor Drive Using Adaptive Neuro Based Fuzzy Inference System,” *Int. J. Sci. Res.*, vol. 4, no. 12, pp. 677–680, 2015, doi: 10.21275/v4i12.nov152004.
- [49] X. Li, J. Lai, and R. Tang, “A Hybrid Constraints Handling Strategy for Multiconstrained Multiobjective Optimization Problem of Microgrid Economical/Environmental Dispatch,” *Complexity*, vol. 2017, 2017, doi: 10.1155/2017/6249432.
- [50] R. Ramakrishnan, S. S. Hiremath, and M. Singaperumal, “Theoretical investigations on the effect of system parameters in series hydraulic hybrid system with hydrostatic regenerative braking,” *J. Mech. Sci. Technol.*, vol. 26, no. 5, pp. 1321–1331, 2012, doi: 10.1007/s12206-012-0321-y.
- [51] T. A. Ajith and G. Justin Sunil Dhas, “A Survey On Hybrid Energy Storage System for EV with Regenerative Braking,” *2018 Int. Conf. Control. Power, Commun. Comput. Technol. ICCPCCT 2018*, pp. 250–255, 2018, doi: 10.1109/ICCPCCT.2018.8574283.
- [52] S. S. Emanuele Crisostomi, Robert Shorten and & F. Wirth, *Electrical and Plug-in Hybrid Vehicle Network: Optimization and Control*. 2018.
- [53] H. S. Naohisa Hashimoto, Manabu Omae, “Development of Multi Purpose Small Electric Vehicle with Application of Automated Guiding Control System,” 2004, doi: <https://doi.org/10.4130/jaev.2.557>.
- [54] M. K. Yoong *et al.*, “Studies of regenerative braking in electric vehicle,” *IEEE Conf. Sustain. Util. Dev. Eng. Technol. 2010, STUDENT 2010 - Conf. Bookl.*, no. November, pp. 40–45, 2010, doi: 10.1109/STUDENT.2010.5686984.
- [55] M. CIONTU and I. D. NICOLAE, “Simulation of Regenerative Braking at an Electrical Scooter,” *Elth.Ucv.Ro*, no. 38, 2014, [Online]. Available: <http://elth.ucv.ro/fisiere/anale/2014/151.pdf>.

- [56] A. Mohtar, Z. Nedic, and J. Machotka, "A compact and affordable BLDC motor controller for a microelectronics remote laboratory," *Proc. 2008 Int. Conf. Embed. Syst. Appl. ESA 2008*, no. January, pp. 75–80, 2008.
- [57] S. S. Bhurse and A. A. Bhole, "A Review of Regenerative Braking in Electric Vehicles," *7th IEEE Int. Conf. Comput. Power, Energy, Inf. Commun. ICCPEIC 2018*, pp. 363–367, 2018, doi: 10.1109/ICCPEIC.2018.8525157.
- [58] M. J. Yang, H. L. Jhou, B. Y. Ma, and K. Ka. Shyu, "A cost-effective method of electric brake with energy regeneration for electric vehicles," *IEEE Trans. Ind. Electron.*, vol. 56, no. 6, pp. 2203–2212, 2009, doi: 10.1109/TIE.2009.2015356.
- [59] H. Kong, "Regenerative Braking for Electric Vehicle based on Fuzzy Logic Control Strategy Zijian Zhang," vol. 1, no. Icmee, pp. 319–323, 2010.
- [60] Z. weige and G. H. Wen Feng, Jiang Jiuchun, "Charging Method for Li-ion Battery Pack in Electric Vehicles," in *Automotive Engineering*, 2008, pp. 792–795.
- [61] Z. Zhang, G. Xu, W. Li, and L. Zheng, "The application of fuzzy logic in regenerative braking of EV," *Proc. - 2010 2nd Int. Conf. Intell. Human-Machine Syst. Cybern. IHMSC 2010*, vol. 2, pp. 124–128, 2010, doi: 10.1109/IHMSC.2010.130.
- [62] M. A. Alipudin and et. al, "Rancang bangun alat monitoring biaya listrik terpakai berbasis internet of things (IOT)," pp. 1–11, 2019.
- [63] H. P. JauhariArifin, Leni Natalia Zulita, "PERANCANGAN MUROTTAL OTOMATIS MENGGUNAKAN MIKROKONTROLLER ARDUINO MEGA 2560," vol. 12, no. 1, pp. 89–98, 2016.
- [64] F. Djuandi, "Pengenalan Arduino," *E-book. www. tobuku*, pp. 1–24, 2011.
- [65] R. Jayaysingh, J. David, M. Joel Morris Raaj, D. Daniel, and D. Blessytelagathoti, "IoT Based Patient Monitoring System Using NodeMCU," *ICDCS 2020 - 2020 5th Int. Conf. Devices, Circuits Syst.*, pp. 240–243, 2020, doi: 10.1109/ICDCS48716.2020.243588.
- [66] A. D. Pangestu, F. Ardianto, and B. Alfaresi, "Sistem Monitoring Beban Listrik Berbasis Arduino Nodemcu Esp8266," *J. Ampere*, vol. 4, no. 1, p. 187, 2019, doi: 10.31851/ampere.v4i1.2745.

- [67] J. Kumar, N. Gupta, A. Kumari, and S. Kumari, "Automatic plant watering and monitoring system using NodeMCU," *Proc. 9th Int. Conf. Cloud Comput. Data Sci. Eng. Conflu.* 2019, pp. 545–550, 2019, doi: 10.1109/CONFLUENCE.2019.8776956.
- [68] Z. Wan, Y. Song, and Z. Cao, "Environment dynamic monitoring and remote control of greenhouse with ESP8266 NodeMCU," *Proc. 2019 IEEE 3rd Inf. Technol. Networking, Electron. Autom. Control Conf. ITNEC 2019*, no. Itnec, pp. 377–382, 2019, doi: 10.1109/ITNEC.2019.8729519.
- [69] A. D. B. Sadewo, E. R. Widasari, and A. Muttaqin, "Perancangan Pengendali Rumah menggunakan Smartphone Android dengan Konektivitas Bluetooth," *J. Pengemb. Teknol. Inf. dan Ilmu Komput.*, vol. 1, no. 5, pp. 415–425, 2017.
- [70] D. G. A. Putri and R. N. Hidayatullah, "Monitoring Tegangan Dan Arus Pada Battery Housing Menggunakan Mikrokontroler Dan Wifi," p. 111, 2016.
- [71] M. D. Ariyantini, *Digital Digital Repository Repository Universitas Universitas Jember Jember Staphylococcus aureus Digital Digital Repository Repository Universitas Universitas Jember Jember*. 2017.
- [72] A. Firmansyah, "Perancangan Sistem Charger Battery Berbasis Converter," 2018.
- [73] R. M. M. Wilutomo and T. Yuwono, "Rancang Bangun Memonitor Arus Dan Tegangan Serta Kecepatan Motor Induksi 3 Fasa Menggunakan Web Berbasis Arduino Due," *Gema Teknol.*, vol. 19, no. 3, p. 19, 2017, doi: 10.14710/gt.v19i3.21881.
- [74] Sugito, "Rancang Bangun Pengasutan Star Delta Pada Motor Induksi Tiga Fasa Berbasis Sensor Kecepatan Menggunakan Mikrokontroler Atmega 16," *Univ. diponogoro*, pp. 8–52, 2016.
- [75] "PZEM-003 / 017 DC communication module," Solar - Thailand.
- [76] M. Company, "Application Note," *Semicond. Manuf.*, no. June, pp. 1–35, 2010.