

DAFTAR PUSTAKA

- [1] P. A dkk., “Development of artificial intelligence edge computing based wearable device for fall detection and prevention of elderly people,” *Heliyon*, vol. 10, no. 8, hlm. e28688, Apr 2024, doi: 10.1016/j.heliyon.2024.e28688.
- [2] M. Marsa dan M. Syaryadi, “Penerapan Wearable Device untuk Mendeteksi Lansia Jatuh pada Rumah Aceh,” vol. 4, no. 3, hlm. 12–18, 2012.
- [3] E. Refni dan W. Wildian, “Sistem Telemetry Pendeteksi dan Identifikasi Lokasi Jatuh Lansia Berbasis Sensor Getar ADXL345,” *Jurnal Fisika Unand*, vol. 10, no. 2, hlm. 225–231, Apr 2021, doi: 10.25077/jfu.10.2.225-231.2021.
- [4] T. Treeratanaporn, S. Keton, K. Roengketgorn, dan B. Phoonthongkham, “Application of Fall Detection for the Elderly: A Case Study of Thailand,” dalam *Proceedings - 2021 Research, Invention, and Innovation Congress: Innovation Electricals and Electronics, RI2C 2021*, Institute of Electrical and Electronics Engineers Inc., Sep 2021, hlm. 252–257. doi: 10.1109/RI2C51727.2021.9559783.
- [5] M. Mu’az, A. Zahazunizam, dan S. Mashori, “Wearable Fall Detection Device,” *Progress in Engineering Application and Technology*, vol. 3, no. 2, hlm. 373–382, 2022, doi: 10.30880/peat.2022.03.02.037.
- [6] M. N. Farhan, M. G. Ayoub, dan A. R. H. Al-Jader, “GPS-based fall detection system for old and specially-abled people,” *Indonesian Journal of Electrical Engineering and Computer Science*, vol. 31, no. 3, hlm. 1545–1550, Sep 2023, doi: 10.11591/ijeecs.v31.i3.pp1545-1550.
- [7] D. Bayar, C. Aridici, Y. S. Metin, O. Za, dan R. Edizkan, “Elderly Fall Detection System with ESP32 Module and Edge Impulse Studio,” dalam *ISAS 2023 - 7th International Symposium on Innovative Approaches in Smart Technologies, Proceedings*, Institute of Electrical and Electronics Engineers Inc., 2023. doi: 10.1109/ISAS60782.2023.10391675.
- [8] I. Arun Faisal, T. Waluyo Purboyo, dan A. Siswo Raharjo Ansori, “A Review of Accelerometer Sensor and Gyroscope Sensor in IMU Sensors on Motion Capture,” *Journal of Engineering and Applied Sciences*, vol. 15, no. 3, hlm. 826–829, Nov 2019, doi: 10.36478/jeasci.2020.826.829.
- [9] M. N. ÖZ, S. BUDAK, E. KURNAZ, dan A. DURDU, “Orientation Determination in IMU Sensor with Complementary Filter,” *Turkish Journal of Forecasting*, vol. 06, no. 1, hlm. 34–39, Agu 2022, doi: 10.34110/forecasting.1126184.
- [10] J. Mohd Sultan, N. H. Zani, M. Azuani, S. Z. Ibrahim, dan A. Md Yusop, “Analysis of Inertial Measurement Accuracy using Complementary Filter for MPU6050 Sensor,” *Jurnal Kejuruteraan*, vol. 34, no. 5, hlm. 959–964, Sep 2022, doi: 10.17576/jkukm-2022-34(5)-24.
- [11] H.-Q.-T. Ngo, T.-P. Nguyen, V.-N.-S. Huynh, T.-S. Le, dan C.-T. Nguyen, “Experimental comparison of Complementary filter and Kalman filter design for low-cost sensor in quadcopter,” dalam *2017 International Conference on System Science and Engineering (ICSSE)*, IEEE, Jul 2017, hlm. 488–493. doi: 10.1109/ICSSE.2017.8030922.
- [12] Z. M. Naing, S. Anatolii, H. S. Paing, dan L. Vinh Thang, “Evaluation of Microelectromechanical System Gyroscope and Accelerometer in the Object

- Orientation System Using Complementary Filter,” dalam *2021 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering (ElConRus)*, IEEE, Jan 2021, hlm. 2777–2781. doi: 10.1109/ElConRus51938.2021.9396198.
- [13] B. Kwolek dan M. Kepski, “Fuzzy Inference-based Fall Detection Using Kinect and Body-worn Accelerometer,” 2015.
- [14] R. Faizrakhmanov, A. Platonov, dan M. Bahrami, “Smart Home User Interface: Development and Comparison,” dalam *2023 International Conference on Industrial Engineering, Applications and Manufacturing (ICIEAM)*, IEEE, Mei 2023, hlm. 531–536. doi: 10.1109/ICIEAM57311.2023.10139022.
- [15] M. A. Syamlan *dkk.*, “Fuzzy Logic-Based Fall Detection System for Elderly Using a Single Inertial Measurement Unit,” dalam *2024 International Conference on Computer Engineering, Network, and Intelligent Multimedia (CENIM)*, IEEE, Nov 2024, hlm. 1–5. doi: 10.1109/CENIM64038.2024.10882737.
- [16] M. M. A. Zahazunizam dan S. Mashori, “Wearable Fall Detection Device,” *Progress in Engineering Application and Technology*, vol. 3, no. 2, hlm. 373–382, Des 2022.
- [17] B. Kwolek dan M. Kepski, “Fuzzy inference-based fall detection using kinect and body-worn accelerometer,” *Appl Soft Comput*, vol. 40, hlm. 305–318, Mar 2016, doi: 10.1016/j.asoc.2015.11.031.
- [18] M. Kchouri, N. Harum, H. Hazimeh, dan A. Obeid, “Smart Fall Detection by Enhanced SVM with Fuzzy Logic Membership Function,” *JUCS - Journal of Universal Computer Science*, vol. 29, no. 9, hlm. 1010–1032, Sep 2023, doi: 10.3897/jucs.91399.
- [19] M. Dadafshar, “Accelerometer and Gyroscopes Sensors: Operation, Sensing, and Applications.”
- [20] Y. Guan dan X. Song, “Sensor Fusion of Gyroscope and Accelerometer for Low-Cost Attitude Determination System,” dalam *2018 Chinese Automation Congress (CAC)*, IEEE, Nov 2018, hlm. 1068–1072. doi: 10.1109/CAC.2018.8623031.
- [21] R. Maulana, W. Kurniawan, dan H. Z. Fahmi, “Noise Reduction on the Tilt Sensor for the Humanoid Robot Balancing System Using Complementary Filter,” *MATEC Web of Conferences*, vol. 220, hlm. 06002, Okt 2018, doi: 10.1051/mateconf/201822006002.
- [22] R. Kurniawan *dkk.*, “Electric bionic legs used gyroscope and accelerometer with fuzzy method,” dalam *2019 International Symposium on Electronics and Smart Devices (ISESD)*, IEEE, 2019, hlm. 1–5.
- [23] T. Ahmed Abouel Kassem, M. E. Tamazin, dan M. H. Aly, “A Reliable Gait Analysis Using Fuzzy Logic,” *J Phys Conf Ser*, vol. 1447, no. 1, hlm. 012029, Jan 2020, doi: 10.1088/1742-6596/1447/1/012029.
- [24] S. S. Babu dan A. S. Pillai, “Design and Implementation of Two-Wheeled Self-Balancing Vehicle Using Accelerometer and Fuzzy Logic,” 2016, hlm. 45–53. doi: 10.1007/978-81-322-2526-3_6.
- [25] U. Guner, H. Canbolat, dan A. Unluturk, “Design and implementation of adaptive vibration filter for MEMS based low cost IMU,” dalam *2015 9th International Conference on Electrical and Electronics Engineering*

- (ELECO), IEEE, Nov 2015, hlm. 130–134. doi: 10.1109/ELECO.2015.7394499.
- [26] F. Rama, E. Mulyana, R. Mardiaty, dan Ah. Fathonih, “Design of Automatic Watergate System Using ESP32 Microcontroller Based on Fuzzy Logic Method,” dalam *2021 7th International Conference on Wireless and Telematics (ICWT)*, IEEE, Agu 2021, hlm. 1–6. doi: 10.1109/ICWT52862.2021.9678410.
- [27] S. Messaoud, A. Bradai, S. H. R. Bukhari, P. T. A. Quang, O. Ben Ahmed, dan M. Atri, “A survey on machine learning in Internet of Things: Algorithms, strategies, and applications,” 1 Desember 2020, *Elsevier B.V.* doi: 10.1016/j.iot.2020.100314.
- [28] B. Burse, K. Doycheva, A. Aicher, C. Walther, dan J. O. Ringert, “Evaluation of low-cost microcontroller-based systems for simple sensor applications,” *Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction*, vol. 176, no. 4, hlm. 183–193, Des 2023, doi: 10.1680/jsmic.22.00031.
- [29] M. Ojha dan R. Sikka, “An Overview on Applications of Microcontroller,” *International Journal of Innovative Research in Engineering & Management (IJIREM)*, no. 8, hlm. 2350–0557, 2021, doi: 10.55524/ijirem.2021.8.6.87.
- [30] J. Limpanadusadee, P. Kesawattana, T. Wongsawat, dan D. Wongsawang, “EldTec: Improvement on Wearable Sensor for Elderly Fall Detection,” dalam *2018 Seventh ICT International Student Project Conference (ICT-ISPC)*, IEEE, Jul 2018, hlm. 1–6. doi: 10.1109/ICT-ISPC.2018.8523991.
- [31] S. D. Tsani dan I. H. Mulyadi, “Sistem Pendeteksi Jatuh Wearable untuk Lanjut Usia Menggunakan Accelerometer dan Gyroscope,” *Journal of Applied Electrical Engineering*, vol. 3, no. 2, hlm. 44–48, Des 2019, doi: 10.30871/jaee.v3i2.1824.
- [32] S. Ahir, S. Kapadia, J. Chauhan, dan N. Sanghavi, “The Personal Stun-A Smart Device For Women’s Safety,” dalam *2018 International Conference on Smart City and Emerging Technology (ICSCET)*, IEEE, Jan 2018, hlm. 1–3. doi: 10.1109/ICSCET.2018.8537376.
- [33] M. Hakimi Shamsudin, M. H. Haziq, A. Aaw, dan E. Aam, “Anti-Face Touching Alarm Cap with Ultrasonic Sensor”, [Daring]. Tersedia pada: <https://www.researchgate.net/publication/357131337>
- [34] We Are Social Indonesia, “Digital 2024,” 2024.
- [35] Telegram, “Telegram,” Telegram.
- [36] P. Pierleoni *dkk.*, “A Wearable Fall Detector For Elderly People Based on AHRS and Barometric Sensor,” *IEEE Sens J*, vol. 16, no. 17, hlm. 6733–6744, 2016, doi: 10.1109/JSEN.2016.2585667.
- [37] L. A. Sucerquia Vega, J. D. López Hincapié, dan J. F. Vargas Bonilla, “SisFall: A Fall and Movement Dataset,” *Sensors*, vol. 17, no. 1, hlm. 198, 2017, doi: 10.3390/s17010198.
- [38] P. Kulurkar, C. kumar Dixit, V. C. Bharathi, A. Monikavishnuvarthini, A. Dhakne, dan P. Preethi, “AI Based Elderly Fall Prediction System Using Wearable Sensors: A Smart Home-Care Technology With IOT,” *Measurement: Sensors*, vol. 25, hlm. 100614, 2023, doi: 10.1016/j.measen.2022.100614.
- [39] InvenSense, “MPU-6000 and MPU-6050 Register Map and

- Descriptions Revision 4.2,” 2013. [Daring]. Tersedia pada: <https://invensense.tdk.com/wp-content/uploads/2015/02/MPU-6000-Register-Map1.pdf>
- [40] InvenSense, “MPU-6000 and MPU-6050 Product Specification Revision 3.4,” 2013. [Daring]. Tersedia pada: <https://invensense.tdk.com/wp-content/uploads/2015/02/MPU-6000-Datasheet1.pdf>
- [41] B. Utomo, N. Y. D. Setyaningsih, dan M. Iqbal, “Kendali Robot Lengan 4 Dof Berbasis Arduino Uno Dan Sensor Mpu-6050,” *Simetris: Jurnal Teknik Mesin, Elektro dan Ilmu Komputer*, vol. 11, no. 1, hlm. 89–96, 2020, [Daring]. Tersedia pada: <https://core.ac.uk/download/pdf/327101648.pdf>
- [42] A. F. AdamSyah, H. Fitriyah, dan R. Maulana, “Sistem Pengendalian Gerak Sendok Menggunakan Sensor Mpu6050 Dan Metode Pid Berbasis Arduino,” *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer*, vol. 5, no. 3, hlm. 1078–1085, 2021, [Daring]. Tersedia pada: <https://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/8742>
- [43] V. A. Erwanda, D. Syauqy, dan F. Utaminigrum, “Pengembangan Sistem Deteksi Gerakan Kepala Sebagai Kontrol Pergerakan Kursi Roda Berbasis Embedded System,” *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer*, vol. 2, no. 1, hlm. 333–341, 2018, [Daring]. Tersedia pada: <https://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/804>
- [44] S. Mujahid, B. Irawan, dan C. Setianingsih, “Perancangan Prototipe Sistem Peringatan Dini Tanah Longsor Berbasis Internet of Things,” *eProceedings of Engineering*, vol. 7, no. 1, hlm. 1651–1657, 2020, [Daring]. Tersedia pada: https://repositori.telkomuniversity.ac.id/pustaka/files/159290/jurnal_eproc/perancangan-prototipe-sistem-peringatan-dini-tanah-longsor-berbasis-internet-of-things.pdf
- [45] P. D. Asanka dan A. S. Perera, “Defining Fuzzy Membership Function Using Box Plot,” *International journal of research in computer applications and robotics*, vol. 5, no. 11, hlm. 1–10, 2017, [Daring]. Tersedia pada: https://www.researchgate.net/publication/321480220_DEFINING_FUZZY_MEMBERSHIP_FUNCTION_USING_BOX_PLOT
- [46] M. Kchouri, N. Harum, H. Hazimeh, dan A. Obeid, “Smart Fall Detection by Enhanced SVM with Fuzzy Logic Membership Function,” *Journal of Universal Computer Science (JUCS)*, vol. 29, no. 9, hlm. 1010–1032, 2023, doi: 10.3897/jucs.91399.