

DAFTAR PUSTAKA

- Abbate, S., Avvenuti, M., Bonatesta, F., Cola, G., Corsini, P. dan Vecchio, A., 2012. A smartphone-based fall detection system. *Pervasive and Mobile Computing*, 8(6), pp.883–899. Available at: <http://dx.doi.org/10.1016/j.pmcj.2012.08.003>.
- Abbate, S., Avvenuti, M., Corsini, P., Light, J. dan Vecchio, A., 2010. Monitoring of Human Movements for Fall Detection and Activities Recognition in Elderly Care Using Wireless Sensor Network: a Survey. Dalam *Wireless Sensor Networks: Application-Centric Design*. InTech, pp. 1–22. Available at: <http://www.intechopen.com/books/wireless-sensor-networks-application-centric-design/monitoring-of-human-movements-for-fall-detection-and-activities-recognition-in-elderly-care-using-wi>.
- Aguiar, B., Rocha, T., Silva, J. dan Sousa, I., 2014. Accelerometer-based fall detection for smartphones. *IEEE MeMeA 2014 - IEEE International Symposium on Medical Measurements and Applications, Proceedings*.
- Bagalà, F., Becker, C., Cappello, A., Chiari, L., Aminian, K., Hausdorff, J.M., Zijlstra, W. dan Klenk, J., 2012. Evaluation of Accelerometer-Based Fall Detection Algorithms on Real-World Falls A. Bayer, ed. *PLoS ONE*, 7(5), p.e37062. Available at: <http://dx.plos.org/10.1371/journal.pone.0037062>.
- Bai, Y., Wu, S. dan Yu, C.H., 2013. Recognition of direction of fall by smartphone. Dalam *2013 26th IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)*. Regina: IEEE, pp. 1–6. Available at: <http://ieeexplore.ieee.org/document/6567781/>.
- Beggs, J.S., 1983. *Kinematics*, Washington DC: Hemisphere Publishing Corporation.
- Boubezoul, A., Espié, S., Larnaudie, B. dan Bouaziz, S., 2013. A simple fall detection algorithm for powered two wheelers. *Control Engineering Practice*, 21(3), pp.286–297. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0967066112002304>.
- Bourke, A.K. dan Lyons, G.M., 2008. A threshold-based fall-detection algorithm using a bi-axial gyroscope sensor. *Medical Engineering and Physics*, 30, pp.84–90.
- Busching, F., Post, H., Gietzelt, M. dan Wolf, L., 2013. Fall detection on the road. Dalam *2013 IEEE 15th International Conference on e-Health Networking, Applications and Services (Healthcom 2013)*. Lisbon: IEEE, pp. 439–443. Available at: <http://ieeexplore.ieee.org/document/6720716/>.
- Cao, Y., Yang, Y. dan Liu, W., 2012. E-FallID: A fall detection system using android-based smartphone. Dalam *2012 9th International Conference on Fuzzy Systems and Knowledge Discovery*. Sichuan: IEEE, pp. 1509–1513. Available at: <http://ieeexplore.ieee.org/document/6234271/>.
- Casilari, E., Santoyo-Ramón, J.A. dan Cano-García, J.M., 2017. UMAFall: A Multisensor Dataset for the Research on Automatic Fall Detection. *Procedia Computer Science*, 110, pp.32–39. Available at: <http://dx.doi.org/10.1016/j.procs.2017.06.110>.
- Chapman, A.E., 2008. *Biomechanical Analysis of Fundamental Human*

Movements, Champaign.

- Chen, C.-C., Hsieh, S.-L., Chen, K.-R. dan Yeh, C.-L., 2014. An unfixed-position smartphone-based fall detection scheme. Dalam *2014 IEEE International Conference on Systems, Man, and Cybernetics (SMC)*. San Diego: IEEE, pp. 2077–2081. Available at: <http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=6974228>.
- Colon, L.N.V., DeLaHoz, Y. dan Labrador, M., 2014. Human fall detection with smartphones. Dalam *2014 IEEE Latin-America Conference on Communications (LATINCOM)*. Cartagena de Indias: IEEE, pp. 1–7. Available at: <http://ieeexplore.ieee.org/document/7041879/>.
- Crew, H., 2008. *The Principles of Mechanics*, BiblioBazaar.
- Delahoz, Y. dan Labrador, M., 2014. Survey on Fall Detection and Fall Prevention Using Wearable and External Sensors. *Sensors*, 14(12), pp.19806–19842. Available at: <http://www.mdpi.com/1424-8220/14/10/19806>.
- Dinh, T.A. dan Chew, M.T., 2015. Application of a commodity smartphone for fall detection. Dalam *2015 6th International Conference on Automation, Robotics and Applications (ICARA)*. Queenstown: IEEE, pp. 495–500. Available at: <http://ieeexplore.ieee.org/document/7081198/>.
- Fang, Y.-C. dan Dzung, R.-J., 2014. A Smartphone-based Detection of Fall Portents for Construction Workers. *Procedia Engineering*, 85, pp.147–156. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1877705814019055>.
- Fang, Y.-C. dan Dzung, R.-J., 2017. Accelerometer-based fall-portent detection algorithm for construction tiling operation. *Automation in Construction*, 84(July 2016), pp.214–230. Available at: <http://dx.doi.org/10.1016/j.autcon.2017.09.015>.
- Figueiredo, I.N., Leal, C., Pinto, L., Bolito, J. dan Lemos, A., 2016. Exploring smartphone sensors for fall detection. *mUX: The Journal of Mobile User Experience*, 5(1), p.2. Available at: <http://muxjournal.springeropen.com/articles/10.1186/s13678-016-0004-1>.
- Fu, X., Tan, Z., Yan, C., Li, Z., Wang, C.-X. dan Wang, C.-X., 2017. Your Body Defines Your Fall Detection System: A Somatotype-Based Feature Selection Method. Dalam *2017 Fifth International Conference on Advanced Cloud and Big Data (CBD)*. Shanghai: IEEE, pp. 402–407. Available at: <http://ieeexplore.ieee.org/document/8026971/>.
- Gibson, R.M., Amira, A., Casaseca-de-la-Higuera, P., Ramzan, N. dan Pervez, Z., 2014. An efficient user-customisable multiresolution classifier fall detection and diagnostic system. Dalam *2014 26th International Conference on Microelectronics (ICM)*. Doha: IEEE, pp. 228–231. Available at: <http://ieeexplore.ieee.org/document/7071848/>.
- Goodrich, R., 2013. Accelerometers: What They Are & How They Work. *Live Science*. Available at: <https://www.livescience.com/40102-accelerometers.html> [Diakses November 3, 2017].
- Gujarati, P., 2013. What is Accelerometer and how does it work on smartphones. Available at: <http://www.techulator.com/resources/8930-How-does-smartphone-accelerometer-work.aspx> [Diakses November 3, 2017].
- Habib, M., Mohktar, M., Kamaruzzaman, S., Lim, K., Pin, T. dan Ibrahim, F., 2014.

- Smartphone-Based Solutions for Fall Detection and Prevention: Challenges and Open Issues. *Sensors*, 14(4), pp.7181–7208. Available at: <http://www.mdpi.com/1424-8220/14/4/7181/>.
- Han, J., Kamber, M. dan Pei, J., 2011. *Data Mining: Concept and Techniques* 3rd ed.,
- He, Y., Li, Y. dan Yin, C., 2012. Falling-Incident Detection and Alarm by Smartphone with Multimedia Messaging Service (MMS). *E-Health Telecommunication Systems and Networks*, 1(1), pp.1–5. Available at: <http://www.scirp.org/journal/doi.aspx?DOI=10.4236/etsn.2012.11001>.
- Hijaz, F., Afzal, N., Ahmad, T. dan Hasan, O., 2010. Survey of fall detection and daily activity monitoring techniques. Dalam *2010 International Conference on Information and Emerging Technologies*. Karachi: IEEE, pp. 1–6. Available at: <http://ieeexplore.ieee.org/document/5625702/>.
- Hou, Y., Li, N. dan Huang, Z., 2012. Triaxial Accelerometer-Based Real Time Fall Event Detection. Dalam *International Conference on Information Society (i-Society 2012)*. London: IEEE, pp. 386–390.
- <http://www.cdc.gov>, 2016. Ten Leading Causes of Death and Injury. Available at: http://www.cdc.gov/injury/images/lc-charts/leading-causes_of_injury_deaths_violence_2014_1040w760h.gif [Diakses Juli 15, 2016].
- Igual, R., Medrano, C. dan Plaza, I., 2013. Challenges, issues and trends in fall detection systems. *BioMedical Engineering OnLine*, 12(1), p.66. Available at: BioMedical Engineering OnLine.
- Jhunz, D., 2011. JATUH pada lansia BUKANLAH hal BIASA. Available at: <http://medicalera.com/3/17023/jatuh-pada-lansia-bukanlah-hal-biasa> [Diakses Maret 21, 2015].
- Kangas, M., Konttila, A., Winblad, I. dan Jämsä, T., 2007. Determination of simple thresholds for accelerometry-based parameters for fall detection. *Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference*, 2007, pp.1367–70. Available at: <http://ieeexplore.ieee.org/document/4352552/>.
- Kartika, U., 2013. Jatuh dan Patah Tulang Bisa Berakibat Kematian Lansia.
- Koshmak, G.A., Linden, M. dan Loutfi, A., 2013. Evaluation of the android-based fall detection system with physiological data monitoring. Dalam *2013 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. Osaka: IEEE, pp. 1164–1168. Available at: <http://ieeexplore.ieee.org/document/6609713/>.
- Lehrman, R.L., 1998. *Physics: The Easy Way* 3th ed., New York.
- Li, Q., Stankovic, J.A., Hanson, M.A., Barth, A.T., Lach, J. dan Zhou, G., 2009. Accurate, Fast Fall Detection Using Gyroscopes and Accelerometer-Derived Posture Information. Dalam *2009 Sixth International Workshop on Wearable and Implantable Body Sensor Networks*. IEEE, pp. 138–143. Available at: <http://ieeexplore.ieee.org/document/5226903/>.
- Li, Y., Chen, G., Shen, Y., Zhu, Y. dan Cheng, Z., 2012. Accelerometer-based fall detection sensor system for the elderly. Dalam *2012 IEEE 2nd International*

- Conference on Cloud Computing and Intelligence Systems*. Hangzhou: IEEE, pp. 1216–1220. Available at: <http://ieeexplore.ieee.org/document/6664577/>.
- Lim, D., Park, C., Kim, N.H., Kim, S.-H. dan Yu, Y.S., 2014. Fall-Detection Algorithm Using 3-Axis Acceleration: Combination with Simple Threshold and Hidden Markov Model. *Journal of Applied Mathematics*, 2014, pp.1–8. Available at: <http://www.hindawi.com/journals/jam/2014/896030/>.
- Lopes, I.C., Vaidya, B. dan Rodrigues, J.J.P.C., 2013. Towards an autonomous fall detection and alerting system on a mobile and pervasive environment. *Telecommunication Systems*, 52(4), pp.2299–2310. Available at: <http://link.springer.com/10.1007/s11235-011-9534-0>.
- Madansingh, S., Thrasher, T.A., Layne, C.S. dan Lee, B.-C., 2015. Smartphone based fall detection system. Dalam *2015 15th International Conference on Control, Automation and Systems (ICCAS)*. Busan: IEEE, pp. 370–374. Available at: <http://ieeexplore.ieee.org/document/7364941/>.
- Mehner, S., Klauck, R. dan Koenig, H., 2013. Location-independent fall detection with smartphone. Dalam *Proceedings of the 6th International Conference on Pervasive Technologies Related to Assistive Environments - PETRA '13*. New York, New York, USA: ACM Press, pp. 1–8. Available at: <http://dl.acm.org/citation.cfm?doid=2504335.2504346>.
- Mubashir, M., 2011. A Study of Fall Detection: Review and Implementation. *Sensors Peterborough NH*. Available at: <http://etheses.whiterose.ac.uk/1777/>.
- Noury, N., Barralonl, P., Virone, G., Bois, P., Hamel, I. dan Rumeau, P., 2003. A smart sensor based on rules and its evaluation in daily routines. Dalam *Proceeding of the 25 Annual International Conference of the IEEE EMBS*. Cancun, pp. 3286–3289.
- Noury, N., Rumeau, P., Bourke, A.K., ÓLaighin, G. dan Lundy, J.E., 2008. A proposal for the classification and evaluation of fall detectors. *IRBM*, 29(6), pp.340–349. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1959031808001243>.
- Parikh R, M.A., S, P., G, C.S. dan R, T., 2008. Understanding and using sensitivity, specificity and predictive value. *Indian J Ophthalmol*, 56, pp.45–50.
- Perry, J.T., Kellog, S., Vaidya, S.M., Youn, J.-H., Ali, H. dan Sharif, H., 2009. Survey and evaluation of real-time fall detection approaches. Dalam *2009 6th International Symposium on High Capacity Optical Networks and Enabling Technologies (HONET)*. Alexandria: IEEE, pp. 158–164. Available at: <http://ieeexplore.ieee.org/document/5423081/>.
- Pierleoni, P., Pernini, L., Belli, A., Palma, L., Valenti, S. dan Paniccia, M., 2015. SVM-based fall detection method for elderly people using Android low-cost smartphones. Dalam *2015 IEEE Sensors Applications Symposium (SAS)*. Zadar: IEEE, pp. 1–5. Available at: <http://ieeexplore.ieee.org/document/7133642/>.
- Prasetyo, E., 2011. *Pengolahan Citra Digital dan Aplikasinya menggunakan Matlab* I. F. S. Suyantoro, ed., Yogyakarta: CV. Andi Offset.
- Qu, W., Lin, F. dan Xu, W., 2016. A Real-Time Low-Complexity Fall Detection System on the Smartphone. Dalam *2016 IEEE First International Conference on Connected Health: Applications, Systems and Engineering Technologies*

- (CHASE). Washington DC: IEEE, pp. 354–356. Available at: <http://ieeexplore.ieee.org/document/7545863/>.
- Rakhman, A.Z., Nugroho, L.E., Widyawan dan Kurnianingsih, 2014. Fall detection system using accelerometer and gyroscope based on smartphone. Dalam *2014 The 1st International Conference on Information Technology, Computer, and Electrical Engineering*. Semarang: IEEE, pp. 99–104. Available at: <http://ieeexplore.ieee.org/document/7065722/>.
- Rasheed, M.B., Javaid, N., Alghamdi, T.A., Mukhtar, S., Qasim, U., Khan, Z.A. dan Raja, M.H.B., 2015. Evaluation of Human Activity Recognition and Fall Detection Using Android Phone. Dalam *2015 IEEE 29th International Conference on Advanced Information Networking and Applications*. Gwangju: IEEE, pp. 163–170. Available at: <http://ieeexplore.ieee.org/document/7097966/>.
- Ren, L., Zhang, Q. dan Shi, W., 2012. Low-power fall detection in home-based environments. Dalam *Proceedings of the 2nd ACM international workshop on Pervasive Wireless Healthcare - MobileHealth '12*. New York, New York, USA: ACM Press, p. 39. Available at: <http://dl.acm.org/citation.cfm?doi=2248341.2248349>.
- Riantana, R., 2015. Aplikasi Sensor Accelerometer pada Handphone Android sebagai Pencatat Getaran Gempabumi secara Online. *Jurnal Fisika dan Aplikasinya*, 11(3), p.114. Available at: <http://iptek.its.ac.id/index.php/jfa/article/view/1071>.
- Sadigh, S., Reimers, A., Andersson, R. dan Laflamme, L., 2004. Falls and Fall-Related Injuries Among the Elderly: A Survey of Residential-Care Facilities in a Swedish Municipality. *Journal of Community Health*, 29(2), pp.129–140. Available at: <http://link.springer.com/10.1023/B:JOHE.0000016717.22032.03>.
- Sarker, S., Nath, A.K. dan Razzaque, A., 2016. Tradeoffs between sensing quality and energy efficiency for context monitoring applications. Dalam *2016 International Conference on Networking Systems and Security (NSysS)*. Dhaka: IEEE, pp. 1–7. Available at: <http://ieeexplore.ieee.org/document/7400699/>.
- Shen, V.R.L., Horng-Yih Lai dan Ah-Fur Lai, 2013. Application of High-Level Fuzzy Petri Nets to fall detection system using smartphone. Dalam *2013 International Conference on Machine Learning and Cybernetics*. Tianjin: IEEE, pp. 1429–1435. Available at: <http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=6890807>.
- Shi, Y., Shi, Y. dan Wang, X., 2012. Fall Detection on Mobile Phones Using Features from a Five-Phase Model. Dalam *2012 9th International Conference on Ubiquitous Intelligence and Computing and 9th International Conference on Autonomic and Trusted Computing*. Fukuoka: IEEE, pp. 951–956. Available at: <http://ieeexplore.ieee.org/document/6332111/>.
- Shumway-Cook, A., Ciol, M.A., Hoffman, J., Dudgeon, B.J., Yorkston, K. dan Chan, L., 2009. Falls in the Medicare Population: Incidence, Associated Factors, and Impact on Health Care. *Physical Therapy*, 89(4), pp.324–332. Available at: <https://academic.oup.com/ptj/article->

- lookup/doi/10.2522/ptj.20070107.
- Sie, M.-R. dan Lo, S.-C., 2015. The design of a smartphone-based fall detection system. Dalam *2015 IEEE 12th International Conference on Networking, Sensing and Control*. Taipei: IEEE, pp. 456–461. Available at: <http://ieeexplore.ieee.org/document/7116080/>.
- Soewito, B., Irwan, Antonyová, A. dan Gunawan, F.E., 2015. Fall Detection Algorithm to Generate Security Alert. *Procedia Computer Science*, 59(Iccsci), pp.350–356. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S187705091502061X>.
- Sorvala, A., Alasaarela, E., Sorvoja, H. dan Myllyla, R., 2012. A two-threshold fall detection algorithm for reducing false alarms. *2012 6th International Symposium on Medical Information and Communication Technology, ISMICT 2012*.
- Sposaro, F. dan Tyson, G., 2009. iFall: An android application for fall monitoring and response. Dalam *2009 Annual International Conference of the IEEE Engineering in Medicine and Biology Society*. Minneapolis: IEEE, pp. 6119–6122. Available at: <http://ieeexplore.ieee.org/document/5334912/>.
- Tan, T.-H., Gochoo, M., Chang, C.-S., Wu, C.-T. dan Chiang, J.Y., 2013. Fall Detection for Elderly Persons Using Android-Based Platform. Dalam *Energy*. pp. 200–204.
- Tinetti, M.E., 2003. Preventing “Falls in Elderly Persons This Journal Feature begins. *The New England Journal of Medicine*, pp.42–49.
- Tiwari, R., Singh, A.K. dan Khan, S.N., 2013. Using Android platform to detect free fall. Dalam *2013 International Conference on Information Systems and Computer Networks*. Mathura: IEEE, pp. 161–163. Available at: <http://ieeexplore.ieee.org/document/6524194/>.
- Tri, T., Truong, H. dan Khanh, T., 2016. Automatic Fall Detection using Smartphone Acceleration Sensor. *International Journal of Advanced Computer Science and Applications*, 7(12), pp.123–129. Available at: <http://thesai.org/Publications/ViewPaper?Volume=7&Issue=12&Code=ijacs&SerialNo=16>.
- Valcourt, L., De La Hoz, Y. dan Labrador, M., 2016. Smartphone-based Human Fall Detection System. *IEEE Latin America Transactions*, 14(2), pp.1011–1017. Available at: <http://ieeexplore.ieee.org/document/7437252/>.
- WHO, BMI Classification. Available at: http://apps.who.int/bmi/index.jsp?introPage=intro_3.html [Diakses Desember 28, 2015].
- Wibisono, W., Arifin, D.N., Pratomo, B.A., Ahmad, T. dan Ijtihadie, R.M., 2013. Falls Detection and Notification System Using Tri-axial Accelerometer and Gyroscope Sensors of a Smartphone. Dalam *2013 Conference on Technologies and Applications of Artificial Intelligence*. Taipei: IEEE, pp. 382–385. Available at: <http://ieeexplore.ieee.org/document/6783901/>.
- Xinguo Yu, 2008. Approaches and principles of fall detection for elderly and patient. Dalam *HealthCom 2008 - 10th International Conference on e-health Networking, Applications and Services*. IEEE, pp. 42–47. Available at: <http://ieeexplore.ieee.org/document/4600107/>.

- Yi, W.-J. dan Saniie, J., 2014. Design flow of a wearable system for body posture assessment and fall detection with android smartphone. Dalam *2014 IEEE International Technology Management Conference*. Chicago: IEEE, pp. 1–4. Available at: <http://ieeexplore.ieee.org/document/6918617/>.
- Yi He, Ye Li dan Shu-Di Bao, 2012. Fall detection by built-in tri-accelerometer of smartphone. Dalam *Proceedings of 2012 IEEE-EMBS International Conference on Biomedical and Health Informatics*. Hong Kong: IEEE, pp. 184–187. Available at: <http://ieeexplore.ieee.org/document/6211540/>.
- Yildirim, K., Ucar, G., Keskin, T. dan Kavak, A., 2016. Fall Detection Using Smartphone-Based Application. *International Journal of Applied Mathematics, Electronics and Computer*.
- Yun Li, Ho, K.C. dan Popescu, M., 2012. A Microphone Array System for Automatic Fall Detection. *IEEE Transactions on Biomedical Engineering*, 59(5), pp.1291–1301. Available at: <http://ieeexplore.ieee.org/document/6144718/>.
- Zheng, J., Zhang, G. dan Wu, T., 2009. Design of Automatic Fall Detector for Elderly Based on Triaxial Accelerometer. Dalam *2009 3rd International Conference on Bioinformatics and Biomedical Engineering*. Beijing: IEEE, pp. 1–4. Available at: <http://ieeexplore.ieee.org/document/5162596/>.