DAFTAR PUSTAKA

[1] S. A. Butt *et al.*, "A software-based cost estimation technique in scrum using a developer's expertise," *Advances in Engineering Software*, vol. 171, p. 103159, Sep. 2022, doi: 10.1016/j.advengsoft.2022.103159.

[2] K. Harish Kumar and K. Srinivas, "An improved analogy-rule based software effort estimation using HTRR-RNN in software project management," *Expert Systems with Applications*, vol. 251, p. 124107, Oct. 2024, doi: 10.1016/j.eswa.2024.124107.

[3] Y. Swandari, R. Ferdiana, and A. E. Permanasari, "Research Trends in Software Development Effort Estimation," in *2023 10th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI)*, Palembang, Indonesia: IEEE, Sep. 2023, pp. 625–630. doi: 10.1109/EECSI59885.2023.10295716.

[4] M. Jørgensen and E. Escott, "Relative estimates of software development effort: Are they more accurate or less time-consuming to produce than absolute estimates, and to what extent are they person-independent?," *Information and Software Technology*, vol. 143, p. 106782, Mar. 2022, doi: 10.1016/j.infsof.2021.106782.

[5] Meiliana, G. Daniella, N. Wijaya, N. G. E. Putra, and R. Efata, "Agile Software Development Effort Estimation based on Product Backlog Items," *Procedia Computer Science*, vol. 227, pp. 186–193, 2023, doi: 10.1016/j.procs.2023.10.516.

[6] O. R. Yürüm, H. Ünlü, and O. Demirörs, "An alternative software benchmarking dataset: effort estimation with machine learning," *Journal of Systems and Software*, vol. 231, p. 112591, Jan. 2026, doi: 10.1016/j.jss.2025.112591.

[7] A. J. J. Tan, C. Y. Chong, and A. Aleti, "REARRANGE: Effort estimation approach for software clustering-based remodularisation," *Information and Software Technology*, vol. 176, p. 107567, Dec. 2024, doi: 10.1016/j.infsof.2024.107567.

[8] D. Bednárek, M. Kruliš, and J. Yaghob, "Letting future programmers experience performance-related tasks," *Journal of Parallel and Distributed Computing*, vol. 155, pp. 74–86, Sep. 2021, doi: 10.1016/j.jpdc.2021.04.014.

[9] Y.-T. Chuang and H.-Y. Chang, "Analyzing novice and competent programmers' problem-solving behaviors using an automated evaluation system," *Science of Computer Programming*, vol. 237, p. 103138, Oct. 2024, doi: 10.1016/j.scico.2024.103138.

[10] B. Małachowski, "Quantitative skill evaluation criterion for selecting programmers in custom software development companies," *Procedia Computer*

Science, vol. 246, pp. 5368–5377, 2024, doi: 10.1016/j.procs.2024.09.660.

[11] M. Wolfe, "Performant, Portable, and Productive Parallel Programming With Standard Languages," *Comput. Sci. Eng.*, vol. 23, no. 5, pp. 39–45, Sep. 2021, doi: 10.1109/MCSE.2021.3097167.

[12] E. Jiménez, A. Gordillo, C. Calero, M. Á. Moraga, and F. García, "Does the compiler or interpreter version influence the energy consumption of programming languages?," *Science of Computer Programming*, vol. 243, p. 103270, Jul. 2025, doi: 10.1016/j.scico.2025.103270.

[13] Z. Wang, Y. Fang, and N. Wang, "An empirical study on bugs in TypeScript programming language," *Journal of Systems and Software*, vol. 226, p. 112445, Aug. 2025, doi: 10.1016/j.jss.2025.112445.

[14] B. Pokorni, J. Zwerina, and M. Hämmerle, "Human-centered design approach for manufacturing assistance systems based on Design Sprints," *Procedia CIRP*, vol. 91, pp. 312–318, 2020, doi: 10.1016/j.procir.2020.02.181.

[15] Y. Palopak and S.-J. Huang, "Perceived impact of agile principles: Insights from a survey-based study on agile software development project success," *Information and Software Technology*, vol. 176, p. 107552, Dec. 2024, doi: 10.1016/j.infsof.2024.107552.

[16] W. Rosa and S. Jardine, "A novel method to early agile effort estimation through functional initiatives," *Journal of Systems and Software*, vol. 223, p. 112302, May 2025, doi: 10.1016/j.jss.2024.112302.

[17] S. Laqrichi, "A Hybrid Framework for COSMIC Measurement: Combining Large Language Models with a Rule-Based System," in *CEUR Workshop Proceedings*, Montréal, Canada, Oct. 2024. [Online]. Available: https://ceur-ws.org/Vol-3852/paper9.pdf

[18] C. Symons, "The COSMIC Method for Measuring the Work-Output Component of Productivity," in *Rethinking Productivity in Software Engineering*, C. Sadowski and T. Zimmermann, Eds., Berkeley, CA: Apress, 2019, pp. 191–204. doi: 10.1007/978-1-4842-4221-6_17.

[19] Y. S. Molla, E. Alemneh, and S. T. Yimer, "COSMIC-Based Early Software Size Estimation Using Deep Learning and Domain-Specific BERT," *IEEE Access*, vol. 13, pp. 28463–28475, 2025, doi: 10.1109/ACCESS.2025.3540548.

[20] A. Kaur and K. Kaur, "A COSMIC function points based test effort estimation model for mobile applications," *Journal of King Saud University - Computer and*

Information Sciences, vol. 34, no. 3, pp. 946–963, Mar. 2022, doi: 10.1016/j.jksuci.2019.03.001.

[21] M. Ochodek, S. Kopczyńska, and M. Staron, "Deep learning model for end-to-end approximation of COSMIC functional size based on use-case names," *Information and Software Technology*, vol. 123, p. 106310, Jul. 2020, doi: 10.1016/j.infsof.2020.106310.

[22] S. Abrahão, L. De Marco, F. Ferrucci, J. Gomez, C. Gravino, and F. Sarro, "Definition and evaluation of a COSMIC measurement procedure for sizing Web applications in a model-driven development environment," *Information and Software Technology*, vol. 104, pp. 144–161, Dec. 2018, doi: 10.1016/j.infsof.2018.07.012.

[23] F. Valdés-Souto, "Analyzing the performance of two COSMIC approximation sizing techniques at the functional process level," *Science of Computer Programming*, vol. 135, pp. 105–121, Feb. 2017, doi: 10.1016/j.scico.2016.11.005.

[24] R. Gonultas and A. Tarhan, "Run-Time Calculation of COSMIC Functional Size via Automatic Installment of Measurement Code into Java Business Applications," in *2015 41st Euromicro Conference on Software Engineering and Advanced Applications*, Madeira, Portugal: IEEE, Aug. 2015, pp. 112–118. doi: 10.1109/SEAA.2015.30.

[25] S. Bagriyanik and A. Karahoca, "Automated COSMIC Function Point measurement using a requirements engineering ontology," *Information and Software Technology*, vol. 72, pp. 189–203, Apr. 2016, doi: 10.1016/j.infsof.2015.12.011.

[26] F. Valdés-Souto and D. Torres-Robledo, "Is It Possible to Use ChatGPT to Perform Measurements Using the COSMIC Method?," *Program Comput Soft*, vol. 50, no. 8, pp. 674–689, Dec. 2024, doi: 10.1134/S0361768824700695.

[27] H. L. Fwa, "Experience Report: Identifying common misconceptions and errors of novice programmers with ChatGPT," in *Proceedings of the 46th International Conference on Software Engineering: Software Engineering Education and Training*, Lisbon Portugal: ACM, Apr. 2024, pp. 233–241. doi: 10.1145/3639474.3640059.

[28] B. Permana, R. Ferdiana, and A. Pratama, "Large Language Model Employment for Story Point Estimation Problems in AGILE Development," in *2024 International Conference on Electrical Engineering and Computer Science (ICECOS)*, Palembang, Indonesia: IEEE, Sep. 2024, pp. 391–398. doi: 10.1109/ICECOS63900.2024.10791206.

[29] P. Gajo and A. Barrón-Cedeño, "Natural vs programming language in LLM

knowledge graph construction," *Information Processing & Management*, vol. 62, no. 5, p. 104195, Sep. 2025, doi: 10.1016/j.ipm.2025.104195.

[30] A. T. Van Can and F. Dalpiaz, "Locating requirements in backlog items: Content analysis and experiments with large language models," *Information and Software Technology*, vol. 179, p. 107644, Mar. 2025, doi: 10.1016/j.infsof.2024.107644.

[31] Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology, Karachi, Pakistan, M. A. Ali, H. Ahmed, and Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology, Karachi, Pakistan, "Comparative Analysis Of Functional Size Measurement Methods On Software Development Projects," *JISR-C*, vol. 16, no. 2, 2018, doi: 10.31645/jisrc/(2018).16.2.03.

[32] N. Condori-Fernández and Ó. Pastor, "Evaluating the Productivity and Reproducibility of a Measurement Procedure," in *Advances in Conceptual Modeling - Theory and Practice*, vol. 4231, J. F. Roddick, V. R. Benjamins, S. Si-said Cherfi, R. Chiang, C. Claramunt, R. A. Elmasri, F. Grandi, H. Han, M. Hepp, M. D. Lytras, V. B. Mišić, G. Poels, I.-Y. Song, J. Trujillo, and C. Vangenot, Eds., in Lecture Notes in Computer Science, vol. 4231. , Berlin, Heidelberg: Springer Berlin Heidelberg, 2006, pp. 352–361. doi: 10.1007/11908883_42.

[33] M. S. Unluturk and K. Kurtel, "Quantifying Productivity of Individual Software Programmers: Practical Approach," in *Computing and Informatics*, vol. 34, 4 vols., 2016, pp. 959–972. [Online]. Available: https://www.cai.sk/ojs/index.php/cai/article/view/969

[34] G. De Vito, S. Di Martino, F. Ferrucci, C. Gravino, and F. Palomba, "LLM-Based Automation of COSMIC Functional Size Measurement From Use Cases," *IIEEE Trans. Software Eng.*, vol. 51, no. 5, pp. 1500–1523, May 2025, doi: 10.1109/TSE.2025.3554562.

[35] T. Hacaloglu and O. Demirors, "Measureability of Functional Size in Agile Software Projects: Multiple Case Studies with COSMIC FSM," in *2019 45th Euromicro Conference on Software Engineering and Advanced Applications (SEAA)*, Kallithea-Chalkidiki, Greece: IEEE, Aug. 2019, pp. 204–211. doi: 10.1109/SEAA.2019.00041.

[36] H. Unlu, T. Hacaloglu, F. Buber, K. Berrak, O. Leblebici, and O. Demirors, "Utilization of Three Software Size Measures for Effort Estimation in Agile World: A Case Study," in *2022 48th Euromicro Conference on Software Engineering and Advanced Applications (SEAA)*, Gran Canaria, Spain: IEEE, Aug. 2022, pp. 239–246.

doi: 10.1109/SEAA56994.2022.00045.

[37] Maya Saufinah Pane, Nirmaya Fanisya, Silvi Roma Rizkina, Yesy Prinkawati Nasution, and Dewi Agustina, "Sistem Informasi Manajemen Rumah Sakit (SIMRS) Untuk Meningkatkan Mutu Pelayanan Kesehatan Di Indonesia," *Detector*, vol. 1, no. 3, pp. 01–14, Jun. 2023, doi: 10.55606/detector.v1i3.1980.

[38] A. Sellami, M. Haoues, N. Borchani, and N. Bouassida, "Orchestrating Functional Change Decisions in Scrum Process using COSMIC FSM Method:," in *Proceedings of the 13th International Conference on Software Technologies*, Porto, Portugal: SCITEPRESS - Science and Technology Publications, 2018, pp. 482–493. doi: 10.5220/0006853804820493.

[39] Z. Mushtaq and A. Wahid, "Inclusion of Functional and Non-Functional Parameters for the Prediction of Overall Efforts of Mobile Applications.," *Computer Standards & Interfaces*, vol. 71, p. 103404, Aug. 2020, doi: 10.1016/j.csi.2019.103404.

[40] S. Di Martino, F. Ferrucci, C. Gravino, and F. Sarro, "Assessing the effectiveness of approximate functional sizing approaches for effort estimation," *Information and Software Technology*, vol. 123, p. 106308, Jul. 2020, doi: 10.1016/j.infsof.2020.106308.

[41] J. Pasuksmit, P. Thongtanunam, and S. Karunasekera, "A Systematic Literature Review on Reasons and Approaches for Accurate Effort Estimations in Agile," 2024, *arXiv*. doi: 10.48550/ARXIV.2405.01569.

[42] H. Ünlü, T. Hacaloğlu, N. K. Ömüral, N. Çalişkanel, O. Leblebici, and O. Demirörs, "An Exploratory Case Study on Effort Estimation in Microservices," in *2023 49th Euromicro Conference on Software Engineering and Advanced Applications (SEAA)*, Durres, Albania: IEEE, Sep. 2023, pp. 215–218. doi: 10.1109/SEAA60479.2023.00040.

[43] S. S. Ali, J. Ren, and J. Wu, "Framework to improve software effort estimation accuracy using novel ensemble rule," *Journal of King Saud University - Computer and Information Sciences*, vol. 36, no. 9, p. 102189, Nov. 2024, doi: 10.1016/j.jksuci.2024.102189.

[44] R. S. Dewi and Y. S. Dharmawan, "A Proposed Model for Embedding Risk Proportion in Software Development Effort Estimation," *Procedia Computer Science*, vol. 234, pp. 1777–1784, 2024, doi: 10.1016/j.procs.2024.03.185.

[45] M. Iqbal *et al.*, "Exploring issues of story-based effort estimation in Agile

Software Development (ASD)," *Science of Computer Programming*, vol. 236, p. 103114, Sep. 2024, doi: 10.1016/j.scico.2024.103114.

[46] W. Rosa, B. K. Clark, R. Madachy, and B. W. Boehm, "Empirical Effort and Schedule Estimation Models for Agile Processes in the US DoD," *IIEEE Trans. Software Eng.*, vol. 48, no. 8, pp. 3117–3130, Aug. 2022, doi: 10.1109/TSE.2021.3080666.

[47] S. E. Collignon, S. Nazir, and N. C. Surendra, "Agile systems development: Privacy theoretical lens to challenge the full information disclosure paradigm.," *Information & Management*, vol. 59, no. 6, p. 103679, Sep. 2022, doi: 10.1016/j.im.2022.103679.

[48] F. González-Ladrón-de-Guevara, M. Fernández-Diego, and C. Lokan, "The usage of ISBSG data fields in software effort estimation: A systematic mapping study," *Journal of Systems and Software*, vol. 113, pp. 188–215, Mar. 2016, doi: 10.1016/j.jss.2015.11.040.

[49] COSMIC, "The COSMIC Functional Size Measurement Method Version 5.0: Measurement Manual - Part 1: Principles, Definitions & Rules," Common Software Measurement International Consortium, 2021. [Online]. Available: https://cosmic-sizing.org/wp-content/uploads/2020/06/Part-1-MM-Principles-Definitions-Rules-v5.0-Feb-2021.pdf

[50] C. Jones, *Applied software measurement: global analysis of productivity and quality*, 3rd ed. New York: McGraw-Hill, 2008.

[51] L. H. Putnam and W. Myers, *Five core metrics: The @intelligence behind successful software management*. New York: Dorset House Publishing, 2003.

[52] J. Wei *et al.*, "Finetuned Language Models Are Zero-Shot Learners," 2021, *arXiv*. doi: 10.48550/ARXIV.2109.01652.

[53] S. Aronhime *et al.*, "DCE-MRI of the liver: Effect of linear and nonlinear conversions on hepatic perfusion quantification and reproducibility," *Magnetic Resonance Imaging*, vol. 40, no. 1, pp. 90–98, Jul. 2014, doi: 10.1002/jmri.24341.