

DAFTAR PUSTAKA

- [1] W. Wang, H. Yu, and C. Miao, "Deep Model for Dropout Prediction in MOOCs," pp. 26–32, 2017, doi: 10.1145/3126973.3126990.
- [2] J. Qiu *et al.*, "Modeling and Predicting Learning Behavior in MOOCs," *WSDM 2016 - Proc. 9th ACM Int. Conf. Web Search Data Min.*, pp. 93–102, 2016, doi: 10.1145/2835776.2835842.
- [3] A. H. Lubis, S. Z. S. Idrus, and S. A. Rashid, "The exposure of MOOC usage in Indonesia," *Int. J. Sci. Technol. Res.*, vol. 9, no. 2, pp. 2716–2720, 2020.
- [4] T. Belawati and A. Zuhairi, "The Practice of a Quality Assurance System in Open and Distance Learning: A case study at Universitas Terbuka Indonesia (The Indonesia Open University)," *Int. Rev. Res. Open Distance Learn.*, vol. 8, no. 1, pp. 1–15, 2007.
- [5] M. Siregar, R. I. Rokhmawati, and H. M. Az-zahra, "Evaluasi Usability dan Pengalaman Pengguna Website Zenius . net Menggunakan Metode TUXEL : A Technique for User Experience Evaluation in e-Learning," vol. 3, no. 5, pp. 5058–5067, 2019.
- [6] I. R. Finanda and A. Wiwaha, "Pengaruh Word Of Mouth Dan Brand Image Terhadap Keputusan Penggunaan Salon Kecantikan Pada Konsumen Mil Off Beauty Bar," *J. Ilm. WIDYA Ekon.*, vol. 1, no. 2, pp. 134–140, 2017.
- [7] "HarukaEdu." [Online]. Available: <https://harukaedu.com/>. [Accessed: 19-Apr-2020].
- [8] "CodeSaya." [Online]. Available: <https://codesaya.com/>.
- [9] F. Dalipi, A. S. Imran, and Z. Kastrati, "MOOC Dropout Prediction Using Machine Learning Techniques: Review and Research Challenges," *IEEE Glob. Eng. Educ. Conf. EDUCON*, vol. 2018-April, pp. 1007–1014, 2018, doi: 10.1109/EDUCON.2018.8363340.
- [10] C. P. Rosé *et al.*, "Social factors that contribute to attrition in MOOCs," pp. 197–198, 2014, doi: 10.1145/2556325.2567879.
- [11] R. Umer, T. Susnjak, A. Mathrani, and S. Suriadi, "Prediction of Students'

- Dropout in MOOC Environment,” *Int. J. Knowl. Eng.*, vol. 3, no. February 2018, pp. 43–47, 2017, doi: 10.18178/ijke.2017.3.2.085.
- [12] L. Qiu, Y. Liu, Q. Hu, and Y. Liu, “Student dropout prediction in massive open online courses by convolutional neural networks,” *Soft Comput.*, 2018, doi: 10.1007/s00500-018-3581-3.
- [13] K. S. Na and Z. Tasir, “Identifying at-risk students in online learning by analysing learning behaviour: A systematic review,” *2017 IEEE Conf. Big Data Anal. ICBDA 2017*, vol. 2018-Janua, pp. 118–123, 2018, doi: 10.1109/ICBDAA.2017.8284117.
- [14] I. Lykourantzou, I. Giannoukos, V. Nikolopoulos, G. Mpardis, and V. Loumos, “Dropout prediction in e-learning courses through the combination of machine learning techniques,” *Comput. Educ.*, vol. 53, no. 3, pp. 950–965, 2009, doi: 10.1016/j.compedu.2009.05.010.
- [15] J. Liang, C. Li, and L. Zheng, “Machine learning application in MOOCs: Dropout prediction,” *ICCSE 2016 - 11th Int. Conf. Comput. Sci. Educ.*, no. Iccse, pp. 52–57, 2016, doi: 10.1109/ICCSE.2016.7581554.
- [16] O. Sagi and L. Rokach, “Ensemble learning: A survey,” *Wiley Interdiscip. Rev. Data Min. Knowl. Discov.*, vol. 8, no. 4, pp. 1–18, 2018, doi: 10.1002/widm.1249.
- [17] Y. Sun, A. K. C. Wong, and M. S. Kamel, “Classification of imbalanced data: A review,” *Int. J. Pattern Recognit. Artif. Intell.*, vol. 23, no. 4, pp. 687–719, 2009, doi: 10.1142/S0218001409007326.
- [18] J. Chen, J. Feng, X. Sun, N. Wu, Z. Yang, and S. Chen, “MOOC Dropout Prediction Using a Hybrid Algorithm Based on Decision Tree and Extreme Learning Machine,” *Math. Probl. Eng.*, vol. 2019, pp. 1–11, 2019, doi: 10.1155/2019/8404653.
- [19] Cha Zhang · Yunqian Ma, *Ensemble Machine Learning*. 2012.
- [20] S. Hamori, M. Kawai, T. Kume, Y. Murakami, and C. Watanabe, “Ensemble Learning or Deep Learning? Application to Default Risk Analysis,” *J. Risk Financ. Manag.*, vol. 11, no. 1, p. 12, 2018, doi: 10.3390/jrfm11010012.

- [21] C. W. Schumacher, M. D. Vose, and L. D. Whitley, "The No Free Lunch and Problem Description Length," *Proc. Genet. Evol. Comput. Conf. GECCO'01*, no. March 2003, pp. 565–570, 2001.
- [22] J. Wainer, "Comparison of 14 different families of classification algorithms on 115 binary datasets," no. 2014, 2016.
- [23] S. Lee and J. Y. Chung, "The Machine Learning-Based Dropout Early Warning System for Improving the Performance of Dropout Prediction," *Appl. Sci.*, vol. 9, no. 15, p. 3093, 2019, doi: 10.3390/app9153093.
- [24] T. Promise, M. Open, and O. Courses, "Another Colonialist Tool?," *Invasion of the MOOCs*.
- [25] O. Courses, M. Held, and I. N. Serbian, "MASSIVE OPEN COURSES (MOOCS) HELD IN SERBIAN," no. March 2017, 2006.
- [26] C. J. Bonk and M.-V. MISSING-VALUE, "1MOOCs and Open Education," *MOOCs Open Educ. Around World*, pp. 1–29, 2018, doi: 10.4324/9781315751108-1.
- [27] K. S. Hone and G. R. El Said, "Exploring the factors affecting MOOC retention: A survey study," *Comput. Educ.*, vol. 98, pp. 157–168, 2016, doi: 10.1016/j.compedu.2016.03.016.
- [28] P. Adamopoulos, "What makes a great MOOC?," *Thirty Fourth Int. Conf. Inf. Syst. Milan 2013*, vol. 7, no. 3, pp. 254–258, 2013, doi: 10.1038/sj.embor.7400642.
- [29] H. Khalil and M. Ebner, "MOOCs Completion Rates and Possible Methods to Improve Retention - A Literature Review," *EdMedia World Conf. Educ. Media Technol.*, vol. 2014, no. 1, pp. 1305–1313, 2014.
- [30] F. Wenzheng, T. Jie, L. Tracy Xiao, Z. Shuhuai, and G. Jian, "Understanding Dropouts in MOOCs," *Proc. 33rd AAAI Conf. Artif. Intell.*, pp. 1–8, 2019.
- [31] V. B. S. Prasath *et al.*, "Effects of Distance Measure Choice on KNN Classifier PErformance- A Review," pp. 1–39, 2017, doi: 10.1089/big.2018.0175.

- [32] R. O Duda and P. E. Heart, "Pattern Classification and Scene Analysis," *MIT Press*, vol. 7, no. 4, p. 370, 1974.
- [33] S. G. Salve and K. C. Jondhale, "Shape matching and object recognition using shape contexts," *Proc. - 2010 3rd IEEE Int. Conf. Comput. Sci. Inf. Technol. ICCSIT 2010*, vol. 9, pp. 471–474, 2010, doi: 10.1109/ICCSIT.2010.5565098.
- [34] E. Fix and J. Hodges, "Discriminatory Analysis-Nonparametric discrimination: consistency properties," *DTIC Doc.*, no. May, 1951.
- [35] T. M. Cover and P. E. Hart, "Nearest Neighbor Pattern Classification," *IEEE Trans. Inf. Theory*, vol. 13, no. 1, pp. 21–27, 1967, doi: 10.1109/TIT.1967.1053964.
- [36] N. Bhatia and Vandana, "Survey of Nearest Neighbor Techniques," vol. 8, no. 2, pp. 302–305, 2010.
- [37] S. Sun and R. Huang, "An adaptive k-nearest neighbor algorithm," *Proc. - 2010 7th Int. Conf. Fuzzy Syst. Knowl. Discov. FSKD 2010*, vol. 1, no. Fskd, pp. 91–94, 2010, doi: 10.1109/FSKD.2010.5569740.
- [38] G. Biau and E. Scornet, "A random forest guided tour," *TEST*, 2016, doi: 10.1007/s11749-016-0481-7.
- [39] A. Cutler, D. R. Cutler, and J. R. Stevens, "Random Forests," *Ensemble Mach. Learn.*, no. January, 2012, doi: 10.1007/978-1-4419-9326-7.
- [40] T. Dietterich, "An Experimental Comparison of Three Methods for Constructing Ensembles of Decision Trees: Bagging, Boosting, and Randomization," *Coast. Ocean Sp. Util. III. Proc. Symp. Genoa, 1993*, pp. 139–157, 2000.
- [41] N. Japkowicz and S. Stephen, "The Class Imbalance Problem: A Systematic Study," *Intell. Data Anal.*, 2002.
- [42] M. Buda, "A systematic study of the class imbalance problem in convolutional neural networks SCHOOL OF COMPUTER SCIENCE AND

COMMUNICATION A systematic study of the class imbalance problem in convolutional neural networks,” 2017.

- [43] V. Nikulin, G. J. McLachlan, and S. K. Ng, “Ensemble approach for the classification of imbalanced data,” *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 5866 LNAI, pp. 291–300, 2009, doi: 10.1007/978-3-642-10439-8_30.
- [44] M. Galar, A. Fern, E. Barrenechea, and H. Bustince, “A Review on Ensembles for the Class Imbalance Problem: Bagging-, Boosting-, and Hybrid-Based Approaches,” pp. 1–22, 2011.
- [45] J. Z. Kolter and M. A. Maloof, “Dynamic weighted majority: An ensemble method for drifting concepts,” *J. Mach. Learn. Res.*, vol. 8, pp. 2755–2790, 2007.
- [46] L. L. Minku, A. P. White, and X. Yao, “The Impact of Diversity on Online Ensemble Learning in the Presence of Concept Drift,” *IEEE Trans. Knowl. Data Eng.*, vol. 22, no. 5, pp. 730–742, 2010, doi: 10.1109/TKDE.2009.156.
- [47] N. Sternic, A. Pavlovic, P. Miljic, M. Bajcetic, M. Lackovic, and V. Lackovic, “Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy with severe factor XII deficiency,” *Neurol. India*, vol. 57, no. 5, pp. 657–659, 2009, doi: 10.4103/0028-3886.57806.
- [48] S. A. Putri, “Integrasi Teknik Smote Bagging Dengan Information,” vol. 2, no. 2, pp. 22–31, 2017.
- [49] M. Immitzer, C. Atzberger, and T. Koukal, “Tree Species Classification with Random Forest Using Very High Spatial Resolution 8-Band WorldView-2

Satellite Data,” *Remote Sens.*, vol. 4, no. 9, pp. 2661–2693, 2012, doi: 10.3390/rs4092661.

[50] A. L. and M. Wiener, “Classification and Regression by RandomForest,” vol. 3, no. December 2002, pp. 18–22, 2003.

[51] Y. Akbulut, A. Sengur, Y. Guo, and F. Smarandache, “NS-k-NN: Neutrosophic Set-Based k-Nearest Neighbors Classifier,” *Symmetry (Basel)*, vol. 9, no. 9, pp. 1–10, 2017, doi: 10.3390/sym9090179.

[52] R. Ghawi and J. Pfeffer, “Efficient Hyperparameter Tuning with Grid Search for Text Categorization using kNN Approach with BM25 Similarity,” *Open Comput. Sci.*, vol. 9, no. 1, pp. 160–180, 2019, doi: 10.1515/comp-2019-0011.