



DAFTAR PUSTAKA

- Agarwal, S. (2013, December). Data mining: Data mining concepts and techniques. In *2013 international conference on machine intelligence and research advancement* (pp. 203-207). IEEE.
- Al Shalabi, L., Shaaban, Z., & Kasasbeh, B. (2006). Data mining: A preprocessing engine. *Journal of Computer Science*, 2(9), 735-739.
- Al Shalabi, L., & Shaaban, Z. (2006, Mei). Normalization as a preprocessing engine for data mining and the approach of preference matrix. In *2006 International conference on dependability of computer systems* (pp. 207-214). IEEE.
- Ali, A., Shamsuddin, S. M., & Ralescu, A. L. (2013). Classification with class imbalance problem. *Int. J. Advance Soft Compu. Appl*, 5(3).
- Bekkar, M., Djemaa, H. K., & Alitouche, T. A. (2013). Evaluation measures for models assessment over imbalanced data sets. *J Inf Eng Appl*, 3(10).
- Bisri, A., & Wahono, R. S. (2015). Penerapan Adaboost untuk penyelesaian ketidakseimbangan kelas pada Penentuan kelulusan mahasiswa dengan metode Decision Tree. *Journal of Intelligent Systems*, 1(1), 27-32.
- Champagne, C., McNairn, H., Daneshfar, B., & Shang, J. (2014). A bootstrap method for assessing classification accuracy and confidence for agricultural land use mapping in Canada. *International Journal of Applied Earth Observation and Geoinformation*, 29, 44-52.
- Chawla, N. V., Bowyer, K. W., Hall, L. O., & Kegelmeyer, W. P. (2002). SMOTE: synthetic minority over-sampling technique. *Journal of artificial intelligence research*, 16, 321-357.
- Chawla, N. V. (2009). Data mining for imbalanced datasets: An overview. *Data mining and knowledge discovery handbook*, 875-886.



- Chen, T., & Guestrin, C. (2016, August). Xgboost: A scalable tree boosting system. In *Proceedings of the 22nd acm sigkdd international conference on knowledge discovery and data mining* (pp. 785-794).
- Clarke, B., Fokoue, E., & Zhang, H. H. (2009). *Principles and theory for data mining and machine learning* (pp. 304-310). New York: Springer.
- Dietterich, T. G. (2000). An experimental comparison of three methods for constructing ensembles of decision trees: Bagging, boosting, and randomization. *Machine learning*, 40(2), 139-157.
- Dietterich, T. G. (2000, June). Ensemble methods in machine learning. In *International workshop on multiple classifier systems* (pp. 1-15). Springer, Berlin, Heidelberg.
- Fawcett, T. (2006). An introduction to ROC analysis. *Pattern recognition letters*, 27(8), 861-874.
- Gorunescu, F. (2011). *Data Mining: Concepts, models and techniques* (Vol. 12). Springer Science & Business Media.
- Han, J., Pei, J., & Kamber, M. (2011). *Data mining: concepts and techniques*. Elsevier.
- Lai, S. B. S., Shahri, N. H. N. B. M., Mohamad, M. B., Rahman, H. A. B. A., & Ramli, A. B. (2021). Comparing the Performance of AdaBoost, XGBoost, and Logistic Regression for Imbalanced Data.
- Mannila, H. (1996, June). Data mining: machine learning, statistics, and databases. In *Proceedings of 8th International Conference on Scientific and Statistical Data Base Management* (pp. 2-9). IEEE.
- Murty, S. V., & Kumar, R. K. (2019). Accurate liver disease prediction with extreme gradient boosting. *Int. J. Eng. Adv. Technol.*, 8(6), 2288-2295.



Novaković, J. D., Veljović, A., Ilić, S. S., Papić, Ž., & Milica, T. (2017). Evaluation of classification models in machine learning. *Theory and Applications of Mathematics & Computer Science*, 7(1), 39-46.

Polikar, R. (2012). Ensemble learning. In *Ensemble machine learning* (pp. 1-34). Springer, Boston, MA.

Rachmi, A. N. (2020). *Implementasi Metode Random Forest dan Xgboost pada Klasifikasi Customer Churn*. Skripsi, Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Islam Indonesia, Yogyakarta.

Shalev-Shwartz, S., & Ben-David, S. (2014). *Understanding machine learning: From theory to algorithms*. Cambridge university press.

Sun, Y., Wong, A. K., & Kamel, M. S. (2009). Classification of imbalanced data: A review. *International journal of pattern recognition and artificial intelligence*, 23(04), 687-719.

Syahrani, I. M. (2019). Comparation analysis of ensemble technique with boosting (Xgboost) and bagging (Randomforest) for classify splice junction DNA sequence category. *Jurnal Penelitian Pos dan Informatika*, 9(1), 27-36.

Trisanto, D., Rismawati, N., Mulya, M. F., & Kurniadi, F. I. (2021). Modified Focal Loss in Imbalanced XGBoost for Credit Card Fraud Detection. *Int J Intell Eng Syst*, 14, 350-8.

Tsymbal, A., & Puuronen, S. (2000, September). Bagging and boosting with dynamic integration of classifiers. In *European Conference on Principles of Data Mining and Knowledge Discovery* (pp. 116-125). Springer, Berlin, Heidelberg.

Wang, C., Deng, C., & Wang, S. (2020). Imbalance-XGBoost: Leveraging weighted and focal losses for binary label-imbalanced classification with XGBoost. *Pattern Recognition Letters*, 136, 190-197.



IMPLEMENTASI EXTREME GRADIENT BOOSTING (XGBOOST) DALAM MENANGANI IMBALANCED CLASS PADA ANALISIS KLASIFIKASI

ANIENDYARATRI D M K, Prof. Dr.rer.nat., Dedi Rosadi, S.Si., M.Sc.

UNIVERSITAS
GADJAH MADA

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Wu, Z., Lin, W., & Ji, Y. (2018). An integrated ensemble learning model for imbalanced fault diagnostics and prognostics. *IEEE Access*, 6, 8394-8402.

Zhou, Zhi Hua. (2021). *Machine Learning*. Springer. <https://doi.org/10.1007/978-981-15-1967-3>