

## DAFTAR PUSTAKA

- Adhikary, D. Das, & Gupta, D. (2021). Applying over 100 classifiers for churn prediction in telecom companies. *Multimedia Tools and Applications*, 80(28–29), 35123–35144. <https://doi.org/10.1007/s11042-020-09658-z>
- Adhitya, R. R., Wina Witanti, & Rezki Yuniarti. (2023). PERBANDINGAN METODE CART DAN NAÏVE BAYES UNTUK KLASIFIKASI CUSTOMER CHURN. *INFOTECH journal*, 9(2), 307–318. <https://doi.org/10.31949/infotech.v9i2.5641>
- AlMahadin, G., Lotfi, A., Carthy, M. M., & Breedon, P. (2022). Enhanced Parkinson's Disease Tremor Severity Classification by Combining Signal Processing with Resampling Techniques. *SN Computer Science*, 3(1). <https://doi.org/10.1007/s42979-021-00953-6>
- Bishop, C. M. (2006). *Pattern Recognition and Machine Learning* (C. M. Bishop, Ed.; 1 ed.). Springer New York. <https://doi.org/10.1007/978-0-387-45528-0>
- 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. <https://doi.org/10.1613/jair.953>
- Chen, T., & Guestrin, C. (2016). XGBoost: A scalable tree boosting system. *Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 13-17-August-2016*, 785–794. <https://doi.org/10.1145/2939672.2939785>

- Chen, Y. R., Leu, J. S., Huang, S. A., Wang, J. T., & Takada, J. I. (2021). Predicting Default Risk on Peer-to-Peer Lending Imbalanced Datasets. *IEEE Access*, *9*, 73103–73109. <https://doi.org/10.1109/ACCESS.2021.3079701>
- Christanto, H., Rahmad, J., Sinurat, S. H., Hamonangan Sitompul, D. R., Sitomorang, A., Ziegel, D. J., & Indra, E. (2023). Analisis Perbandingan Decision Tree, Support Vector Machine, dan Xgboost dalam Mengklasifikasi Review Hotel Trip Advisor. *Jurnal Teknologi Informatika dan Komputer*, *9*(1), 306–319. <https://doi.org/10.37012/jtik.v9i1.1429>
- Cosmas Haryawan, & Yosef Muria Kusuma Ardhana. (2023). ANALISA PERBANDINGAN TEKNIK OVERSAMPLING SMOTE PADA IMBALANCED DATA. *Jurnal Informatika dan Rekayasa Elektronik*, *6*(1), 73–78. <https://doi.org/10.36595/jire.v6i1.834>
- Daryanto, & Setyobudi, I. (2014). Konsumen dan pelayanan prima. Dalam *Cetakan I*. (I). Gava Media.
- Fernández, A., García, S., Galar, M., Prati, R. C., Krawczyk, B., & Herrera, F. (2018). *Learning from Imbalanced Data Sets*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-98074-4>
- Freund, Y., & Schapire, R. E. (1997). A Decision-Theoretic Generalization of On-Line Learning and an Application to Boosting. *Journal of Computer and System Sciences*, *55*(1), 119–139. <https://doi.org/10.1006/jcss.1997.1504>
- Friedman, J. H. (2001). Greedy function approximation: A gradient boosting machine. *Annals of Statistics*, *29*(5), 1189–1232. <https://doi.org/10.1214/aos/1013203451>

- Ghorbani, R., & Ghousi, R. (2020). Comparing Different Resampling Methods in Predicting Students' Performance Using Machine Learning Techniques. *IEEE Access*, 8, 67899–67911. <https://doi.org/10.1109/ACCESS.2020.2986809>
- Gohil, N. P., & Meniya, A. D. (2021). Click Ad Fraud Detection Using XGBoost Gradient Boosting Algorithm. *International Conference on Computing Science, Communication and Security*, 67–81. [https://doi.org/10.1007/978-3-030-76776-1\\_5](https://doi.org/10.1007/978-3-030-76776-1_5)
- Goutte, C., & Gaussier, E. (2005). A Probabilistic Interpretation of Precision, Recall and F-Score, with Implication for Evaluation. Dalam D. E. Losada & J. M. Fernández-Luna (Ed.), *Advances in Information Retrieval. ECIR 2005. Lecture Notes in Computer Science* (hlm. 345–359). Springer Berlin Heidelberg.
- Hadden, J., Tiwari, A., Roy, R., & Ruta, D. (2007). Computer assisted customer churn management: State-of-the-art and future trends. *Computers & Operations Research*, 34(10), 2902–2917. <https://doi.org/10.1016/j.cor.2005.11.007>
- Hammoudeh, A., Fraihat, M., & Almomani, M. (2019). Selective Ensemble Model for Telecom Churn Prediction. *2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)*, 485–487. <https://doi.org/10.1109/JEEIT.2019.8717406>
- Han, J., Pei, J., & Tong, H. (2022). *Data mining: concepts and techniques*. Morgan kaufmann.

- Hastie, T., Friedman, J., & Tibshirani, R. (2001). *The Elements of Statistical Learning*. Springer New York. <https://doi.org/10.1007/978-0-387-21606-5>
- Herawati, M., Wibowo, I. L., & Mukhlash, I. (2016). PREDIKSI CUSTOMER CHURN MENGGUNAKAN ALGORITMA FUZZY ITERATIVE DICHOTOMISER 3. *Limits: Journal of Mathematics and Its Applications*, 13(1), 23. <https://doi.org/10.12962/j1829605X.v13i1.1913>
- Indonesia. Pemerintah Pusat. (1999). *UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 36 TAHUN 1999 TENTANG TELEKOMUNIKASI*.
- Iqbal, S., Imran, A., & Adnan, M. (2022). Breast Tumor Detection using Machine Learning Boosting Classifiers. *Journal of Computing & Biomedical Informatics*, 4(01), 118–131. <https://doi.org/10.56979/401/2022/64>
- Jain, H., Khunteta, A., & Srivastava, S. (2021). Telecom churn prediction and used techniques, datasets and performance measures: a review. Dalam *Telecommunication Systems* (Vol. 76, Nomor 4, hlm. 613–630). Springer. <https://doi.org/10.1007/s11235-020-00727-0>
- Kaharudin, K., Pradana, M. G., & Kusriani, K. (2019). PREDIKSI CUSTOMER CHURN PERUSAHAAN TELEKOMUNIKASI MENGGUNAKAN NAÏVE BAYES DAN K-NEAREST NEIGHBOR. *Informasi Interaktif*, 4(3), 165–171.
- Keaveney, S. M. (1995). Customer Switching Behavior in Service Industries: An Exploratory Study. *Journal of Marketing*, 59(2), 71–82. <https://doi.org/10.1177/002224299505900206>

- Ketkar, N. (2017). Stochastic Gradient Descent. Dalam *Deep Learning with Python* (hlm. 113–132). Apress. [https://doi.org/10.1007/978-1-4842-2766-4\\_8](https://doi.org/10.1007/978-1-4842-2766-4_8)
- Kingma, D. P., & Ba, J. (2014, Desember 22). Adam: A Method for Stochastic Optimization. *3rd International Conference for Learning Representations*. <https://doi.org/https://doi.org/10.48550/arXiv.1412.6980>
- KURNIAWATI, N., NOVFITRI, A., & NINGSIH, Y. K. (2022). Prediksi Channel Gain Threshold untuk Modulasi Adaptif V2V menggunakan Algoritma Random Forest Regression. *ELKOMIKA: Jurnal Teknik Energi Elektrik, Teknik Telekomunikasi, & Teknik Elektronika*, 10(3), 544. <https://doi.org/10.26760/elkomika.v10i3.544>
- Labhsetwar, S. R. (2020). PREDICTIVE ANALYSIS OF CUSTOMER CHURN IN TELECOM INDUSTRY USING SUPERVISED LEARNING. *ICTACT Journal on Soft Computing*, 10(2), 2054–2060. <https://doi.org/10.21917/ijsc.2020.0291>
- Lalwani, P., Mishra, M. K., Chadha, J. S., & Sethi, P. (2022). Customer churn prediction system: a machine learning approach. *Computing*, 104(2), 271–294. <https://doi.org/10.1007/s00607-021-00908-y>
- Latief, I. M., Subekti, A., & Gata, W. (2021). PREDIKSI TINGKAT PELANGGAN CHURN PADA PERUSAHAAN TELEKOMUNIKASI DENGAN ALGORITMA ADABOOST. *Jurnal Informatika*, 21(1), 34–43. <https://doi.org/10.30873/ji.v21i1.2867>

- Li, X., Wang, L., & Sung, E. (2008). AdaBoost with SVM-based component classifiers. *Engineering Applications of Artificial Intelligence*, 21(5), 785–795. <https://doi.org/10.1016/j.engappai.2007.07.001>
- Liao, T. W., & Triantaphyllou, E. (2008). *Recent Advances In Data Mining Of Enterprise Data: Algorithms and Applications*. World Scientific Publishing Co., Inc.
- Lu, Y. (2017). *Deep neural networks and fraud detection*.
- Magnolia, C., Nurhopipah, A., & Kusuma, B. A. (2023). Penanganan Imbalanced Dataset untuk Klasifikasi Komentar Program Kampus Merdeka Pada Aplikasi Twitter. *Edu Komputika Journal*, 9(2), 105–113. <https://doi.org/10.15294/edukomputika.v9i2.61854>
- Mauludin Nur Aziz, A., Mauliddin, A., Armanda Sintalana, V., Daryl Hafiz, R., & Akbar Rismayadi, A. (2023). Prediksi Customer Churn Menggunakan Logistic Regression dan Decision Tree. *E-Prosiding Teknik Informatika (PROTEKTIF)*, 4(1), 11–19.
- Parbat, D., & Chakraborty, M. (2020). A python based support vector regression model for prediction of COVID19 cases in India. *Chaos, Solitons and Fractals*, 138. <https://doi.org/10.1016/j.chaos.2020.109942>
- Parmawati, E. (2008). *TINJAUAN MENGENAI PENGGUNAAN METODE OUTBOND CALL UNTUK MENGELOLA TINGKAT CHURN PADA PT.TELKOM KANDATEL BANDUNG*. Universitas Widyatama.

- Pham, X. T. T., & Ho, T. H. (2021). Using boosting algorithms to predict bank failure: An untold story. *International Review of Economics and Finance*, 76, 40–54. <https://doi.org/10.1016/j.iref.2021.05.005>
- Richeldi, M., & Perrucci, A. (2002). Churn analysis case study. Dalam *Deliverable D17* (Vol. 2).
- Rochmawati, N., Hidayati, H. B., Yamasari, Y., Tjahyaningtjas, H. P. A., Yustanti, W., & Prihanto, A. (2021). Analisa Learning Rate dan Batch Size pada Klasifikasi Covid Menggunakan Deep Learning dengan Optimizer Adam. *Journal of Information Engineering and Educational Technology*, 5(2), 44–48. <https://doi.org/10.26740/jieet.v5n2.p44-48>
- Sabita, H., & Trisnawati, S. (2023). Perbandingan Algoritma Support Vector Machine dan AdaBoost Dalam Memprediksi Waktu Kelulusan Mahasiswa. *TEKNIKA: Jurnal Ilmiah Bidang Ilmu Rekayasa*, 17(2), 359–372.
- Santoso, B., Azis, A. I. S., & Zohrahayaty. (2020). *Machine Learning & Reasoning Fuzzy Logic Algoritma, Manual, Matlab, & Rapid Miner*. Deepublish. [https://books.google.co.id/books?id=4j\\_YDwAAQBAJ](https://books.google.co.id/books?id=4j_YDwAAQBAJ)
- Schapiro, R. E. (1999). A brief introduction to boosting. *Proceedings of the 16th international joint conference on Artificial intelligence-Volume 2*, 1401–1406.
- Sedgewick, R., & Wayne, K. (2011). *Algorithms* (4 ed.). Addison-wesley professional.

- Shakya, R. (2018). *Application of Machine Learning Techniques in Credit Card Fraud Detection* [Thesis, University of Nevada].  
<https://doi.org/10.34917/14279175>
- Şimşek Gürsoy, U. T. (2010). Customer churn analysis in telecommunication sector. *Istanbul University Journal of the School of Business Administration*, 39(1), 35–49. [www.ifdergisi.org](http://www.ifdergisi.org)
- Singh, D., Jatana, V., & Kanchana, M. (2021). Survey Paper on Churn Prediction on Telecom. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3849664>
- Siswoyo, B., Suryana, N., Abas, Z., & Dewi, A. (2021). Ensemble Learning Gradient Boosting in Improving Classification and Prediction in Machine Learning. *Turkish Journal of Computer and Mathematics Education*, 12(8), 1997–2002. <https://www.ojk.go.id>
- Son, J., Jung, I., Park, K., & Han, B. (2015). Tracking-by-Segmentation with Online Gradient Boosting Decision Tree. *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 3056–3064.
- Sutoyo, E., & Fadlurrahman, M. A. (2020). Penerapan SMOTE untuk Mengatasi Imbalance Class dalam Klasifikasi Television Advertisement Performance Rating Menggunakan Artificial Neural Network. *Jurnal Edukasi dan Penelitian Informatika (JEPIN)*, 6(3), 379.  
<https://doi.org/10.26418/jp.v6i3.42896>
- Townsend, J. T. (1971). Theoretical analysis of an alphabetic confusion matrix. *Perception & Psychophysics*, 9(1), 40–50.  
<https://doi.org/10.3758/BF03213026>

- Ullah, I., Raza, B., Malik, A. K., Imran, M., Islam, S. U., & Kim, S. W. (2019). A Churn Prediction Model Using Random Forest: Analysis of Machine Learning Techniques for Churn Prediction and Factor Identification in Telecom Sector. *IEEE Access*, 7, 60134–60149. <https://doi.org/10.1109/ACCESS.2019.2914999>
- Xu, J., Zhang, Y., & Miao, D. (2020). Three-way confusion matrix for classification: A measure driven view. *Information Sciences*, 507, 772–794. <https://doi.org/10.1016/j.ins.2019.06.064>
- Zhang, D., Qian, L., Mao, B., Huang, C., Huang, B., & Si, Y. (2018). A Data-Driven Design for Fault Detection of Wind Turbines Using Random Forests and XGboost. *IEEE Access*, 6, 21020–21031. <https://doi.org/10.1109/ACCESS.2018.2818678>
- Zhu, Z. (2023). Customer Churn Prediction Based on Big Data and Machine Learning Approaches. *Proceedings of the 8th International Conference on Financial Innovation and Economic Development (ICFIED 2023)*, 4–15. [https://doi.org/10.2991/978-94-6463-142-5\\_2](https://doi.org/10.2991/978-94-6463-142-5_2)