IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 2, May 2023

Telecom Customer Churn Prediction using SMLT

Reni Hena Helan R¹, Aruljothi K², Raguvarman K³, Yashwanthraj J S⁴, Venkatraj R⁵

Assistant Professor, Department of Computer Science^{1,2} Students, Department of Computer Science^{3,4,5} Dhanalakshmi College of Engineering, Chennai, India

Abstract: Customer churn is a significant issue and one of the top issues for big businesses. Companies are working to create methods to predict probable customer churn because it has a direct impact on their revenues, particularly in the telecom industry. In order to reduce customer churn, it is crucial to identify the variables that contribute to this churn. Our work's key contribution is the creation of a churn prediction model that helps telecom providers identify consumers who are most likely to experience churn. This project's objective is to present a fresh method for identifying potential customers who might leave so that marketing retention tactics can be created accordingly. The historical dataset is gathered and used to create a machine learning algorithm model. The required pre-processing methods, such as univariate and bivariate analysis, are put into practice. In order to better understand the properties of the data, it is visualized. A classification model is then developed using a machine learning algorithm, and the effectiveness of the various algorithms is compared using metrics like accuracy, F1 score recall, etc.

Keywords: Customer Churn, Machine Learning, SVM, Logisitic Regression, Decision Tree.

REFERENCES

- [1]. Gerpott TJ, Rams W, Schindler A. Customer retention, loyalty, and satisfaction in the German mobile cellular telecommunications market. Telecommun Policy. 2001;25:249–69.
- [2]. Wei CP, Chiu IT. Turning telecommunications call details to churn prediction: a data mining approach. Expert Syst Appl. 2002;23(2):103–12.
- [3]. Qureshii SA, Rehman AS, Qamar AM, Kamal A, Rehman A. Telecommunication subscribers' churn prediction model using machine learning. In: Eighth international conference on digital information management. 2013. p. 131–6.
- [4]. Ascarza E, Iyengar R, Schleicher M. The perils of proactive churn prevention using plan recommendations: evidence from a feld experiment. J Market Res. 2016;53(1):46–60.
- [5]. Bott. Predicting customer churn in telecom industry using multilayer preceptron neural networks: modeling and analysis. Igarss. 2014;11(1):1–5.
- [6]. Umayaparvathi V, Iyakutti K. A survey on customer churn prediction in telecom industry: datasets, methods and metric. Int Res J Eng Technol. 2016;3(4):1065–70a
- [7]. Yu W, Jutla DN, Sivakumar SC. A churn-strategy alignment model for managers in mobile telecom. In: Communication networks and services research conference, vol. 3. 2005. p. 48–53.
- [8]. Burez D, den Poel V. Handling class imbalance in customer churn prediction. Expert Syst Appl. 2009;36(3):4626–36.

DOI: 10.48175/568

