

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

Volume 3, Issue 1, January 2023

Sentiment Analysis on Airline Service Reviews using Data Mining based Classification Techniques

Rajat Yadu¹ and Ragini Shukla² Research Scholar, CSIT, Dr. C. V. Raman University, Bilaspur, India¹ Professor, CSIT, Dr. C. V. Raman University, Bilaspur, India²

Abstract: Sentimental analysis is the field where online reviews, opinions, and sentiments from users are available and provide considerable amounts of information about the services, facilities, and status of the service provider in the market. In addition to examining the classification accuracy of standard data mining methods, this research evaluates the sentiments expressed about six social media microblog traveller networking site datasets relevant to Indian airlines. Using standard data mining classifiers, Bayes Net and SVM performed with high accuracy rates. In this paper main analysis of the classification performance of passenger sentiments for six airline services has been performed. However, we found that the Bayes Net performed best accuracy rate using WEKA tool but in case of using Rapid Miner tool SVM has produced the highest accuracy rate for our research among the other common standard classifiers. On the basis of thoroughly favourable service reviews from passengers, Go Air is consistently the airline that is most highly recommended.

Keywords: Sentiment Analysis, Standard Classifier, Social Media Micro Blog Datasets, Classification, SMO

REFERENCES

- [1]. Ariyawansa, C. M., & Aponso, A. C. (2016). Review on state of art data mining and machine learning techniques for intelligent Airport systems. Proceedings of 2016 International Conference on Information Management, ICIM 2016, 134–138. https://doi.org/10.1109/INFOMAN.2016.7477547.
- [2]. Atubonengi, R., Anireh, V. I. ., & Matthias, D. (2021). Airline Reservation Using Sentiment Analysis with Naïve Bayes Classifier. Ijarcce, 10(8), 14–21. https://doi.org/10.17148/ijarcce.2021.10802.
- [3]. Amazal, H., & Kissi, M. (2021). A New Big Data Feature Selection Approach for Text Classification. Scientific Programming, 2021. https://doi.org/10.1155/2021/6645345.
- [4]. Bae, W., & Chi, J. (2022). Content Analysis of Passengers' Perceptions of Airport Service Quality: The Case of Honolulu International Airport. Journal of Risk and Financial Management, 15(1). https://doi.org/10.3390/jrfm15010005.
- [5]. Baharum, Z. (2020). An Integrated Model on Airport Terminal Level of Satisfaction for Service Quality Evaluation: A Proposal. International Journal of Advanced Trends in Computer Science and Engineering, 9(1.3), 247–250. https://doi.org/10.30534/ijatcse/2020/3791.32020.
- [6]. Chaudhari, B., & Parikh, M. (2012). A Comparative Study of Clustering Algorithms using Weka Tools. International Journal of Application or Innovation in Engineering and Management (IJAIEM), 1(2), 154–158.
- [7]. El-Rashidy, N., Arafat, H., Elawady, R. M., Barakat, S., & Elrashidy, N. M. (2014). Different Feature Selection for Sentiment Classification Different Feature Selection for Sentiment Classification Different Feature Selection for Sentiment Classification. International Journal of Information Science and Intelligent System, 3(1), 137–150. https://www.researchgate.net/publication/328581496.
- [8]. Fang, X., & Zhan, J. (2015). Sentiment analysis using product review data. Journal of Big Data, 2(1). https://doi.org/10.1186/s40537-015-0015-2.
- [9]. Ibarguren, I., Pérez, J. M., Muguerza, J., Gurrutxaga, I., & Arbelaitz, O. (2018). UnPART: PART without the 'partial' condition of it. Information Sciences, 465, 505–522. https://doi.org/10.1016/j.ins.2018.07.022.

IJARSCT



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

Volume 3, Issue 1, January 2023

- [10]. Joyce, B., & Deng, J. (2019). Sentiment analysis using naive bayes approach with weighted reviews A case study. 2019 IEEE Global Communications Conference, GLOBECOM 2019 - Proceedings. https://doi.org/10.1109/GLOBECOM38437.2019.9013588.
- [11]. Karrar, A. E., & Mutasim, M. (2016). Comparing EM Clustering Algorithm with Density Based Clustering Algorithm Using WEKA Tool. International Journal of Science and Research (IJSR), 5(7), 1199–1201. https://doi.org/10.21275/v5i7.art2016420.
- [12]. Kaur, G., & Malik, K. (2021). A Sentiment Analysis of Airline System using Machine Learning Algorithms. International Journal of Advanced Research in Engineering, 12(1), 731–742.
- [13]. Lee, K., & Yu, C. (2018). Assessment of airport service quality: A complementary approach to measure perceived service quality based on Google reviews. Journal of Air Transport Management, 71(May), 28–44. https://doi.org/10.1016/j.jairtraman.2018.05.004.
- [14]. Martínez, D. M., Ebenhack, B. W., & Wagner, T. P. (2019). Transportation sector energy efficiency. Energy Efficiency, 197–226. https://doi.org/10.1016/b978-0-12-812111-5.00007-x.
- [15]. Panda, P. K. (2019). A LITERATURE REVIEW : CUSTOMER SATISFACTION ON AIRLINE TWEETS. 1, 896–904.
- [16]. R, A. X. A., Mohan, V., & Venu, S. H. (2016). Sentiment Analysis Applied to Airline Feedback to Boost Customers' Endearment. International Journal of Applied and Physical Sciences, 2(2), 219–232. https://doi.org/10.20469/ijaps.2.50004-2.
- [17]. Rani, S., Singh Gill, N., & Gulia, P. (2021). Analyzing impact of number of features on efficiency of hybrid model of lexicon and stack based ensemble classifier for twitter sentiment analysis using WEKA tool. Indonesian Journal of Electrical Engineering and Computer Science, 22(2), 1041. https://doi.org/10.11591/ijeecs.v22.i2.pp1041-1051.
- [18]. Yazdi, M. F., Kamel, S. R., Chabok, S. J. M., & Kheirabadi, M. (2020). Flight delay prediction based on deep learning and Levenberg-Marquart algorithm. Journal of Big Data, 7(1). https://doi.org/10.1186/s40537-020-00380-z.
- [19]. Yoo, G., & Nam, J. (2018). A hybrid approach to sentiment analysis enhanced by sentiment lexicons and polarity shifting devices. The 13th Workshop on Asian Language Resources, 21–28. https://hal.archives-ouvertes.fr/hal-01795217.
- [20]. Zayet, T. M. A., Ismail, M. A., Varathan, K. D., Noor, R. M. D., Chua, H. N., Lee, A., Low, Y. C., & Singh, S. K. J. (2021). Investigating transportation research based on social media analysis: a systematic mapping review. In Scientometrics (Vol. 126, Issue 8). Springer International Publishing. https://doi.org/10.1007/s11192-021-04046-2.