

Automated Sentimental Analysis of Twitter Data

Mr. V. Chandra Sekhar Reddy¹, K. Manvith Reddy², CH. Vachan Sai³, K. Suraj⁴, A. Abhinash⁵

Associate Professor, Department of Computer Science and Engineering¹

IV B.Tech Students, Department of Computer Science and Engineering^{2,3,4,5}

ACE Engineering College, Hyderabad, Telangana, India

Abstract: *In these days, many intellectuals in the society provide their opinions and perspectives on various topics, products and thoughts through social media. Because of this in the market, the requirement of analysing the sentiment of data became more important and increasing day by day. When people using the media need information about a specific issue in the society and products available, it is very crucial to recognize the statements which make sense. For example, when purchasing a product, the consumer may want to know the details of the product, reviews that are provided about it. If they want to look for the drawbacks of the product, they prefer to get through the negative reviews, whereas when wanting to know the advantages, they prefer to check with positive reviews. This pattern can also be applied to national problems, political areas also. Due to large amount of data, manually analysing the data becomes almost impossible. Therefore, we require a model which has the ability to perform sentiment analysis in an automated manner and without any human intervention. Sentiment analysis can be done with the help of different algorithms. In this model, we use the Natural Language Processing (NLP) for conduction of the analysis and present performance comparisons in terms of accuracy and time taken. The model's graphical user interface (GUI) has been designed to enhance user-friendliness. It offers flexibility by allowing for training with any type of dataset of different size and types of data with the help Graphical user interface (GUI) provided and it also includes a module for testing the sentiment of input statements which are custom. The model shows its essence by providing the sentiment and nature of behind statements, making it to be applicable in various real-time scenarios. For example, it can be employed in to assess the product reviews in shopping platforms, providing an overview for the new consumers to understand the positives and negatives about the products. Additionally, it can be utilized for analysing the sentiments related to political areas. Since, there is lot of growth in number of people expressing their views on political issues through social media beyond print media we can grab lot of opinions on political leaders from the common people regarding their manifestos, schemes implemented, behaviour etc.*

Keywords: Algorithms, Gui, analysis, product, dataset, model, platforms, topic, review, Natural language Processing

REFERENCES

- [1]Pang, B., & Lee, L. (2008). Opinion mining and sentiment analysis. Foundations and Trends® in Information Retrieval, 2(1-2), 1-135.
- [2]Liu, B. (2012). Sentiment analysis and opinion mining. Synthesis Lectures on Human Language Technologies, 5(1), 1-167.
- [3]Cambria, E., & Hussain, A. (2012). Sentic computing: Techniques, tools, and applications. Springer.
- [4]Socher, R., Perelygin, A., Wu, J. Y., Chuang, J., Manning, C. D., Ng, A. Y., & Potts, C. (2013). Recursive deep models for semantic compositionality over a sentiment treebank. In Proceedings of the conference on empirical methods in natural language processing (EMNLP) (pp. 1631-1642).
- [5]Kim, Y. (2014). Convolutional neural networks for sentence classification. In Proceedings of the conference on empirical methods in natural language processing (EMNLP) (pp. 1746-1751).
- [6]Devlin, J., Chang, M. W., Lee, K., & Toutanova, K. (2019). BERT: Pre-training of deep bidirectional transformers for language understanding. In Proceedings of the conference of the North American chapter of the Association for Computational Linguistics: Human language technologies (NAACL-HLT) (pp. 4171-4186).

- [7]Wang, X., Li, L., & Deng, H. (2015). Sentiment analysis: Methods, applications, and challenges. *IEEE Intelligent Systems*, 30(4), 74-80.
- [8]Hutto, C. J., & Gilbert, E. (2014). Vader: A parsimonious rule-based model for sentiment analysis of social media text. In *Proceedings of the International AAAI Conference on Web and Social Media (ICWSM) (Vol. 8, No. 1, pp. 216-225)*.
- [9]Go, A., Bhayani, R., & Huang, L. (2009). Twitter sentiment classification using distant supervision. *CS224N Project Report, Stanford*, 1(12), 2009.
- [10]Kiritchenko, S., & Mohammad, S. M. (2018). Examining gender and race bias in two hundred sentiment analysis systems. *Proceedings of the Seventh Joint Conference on Lexical and Computational Semantics (*SEM 2018) (pp. 255-262)*.
- [11]Agarwal, A., Xie, B., Vovsha, I., Rambow, O., & Passonneau, R. (2011). Sentiment analysis of Twitter data. In *Proceedings of the Workshop on Languages in Social Media (pp. 30-38)*. Association for Computational Linguistics.