

Paper Review: Sentiment analysis through twitter as a mechanism for assessing university satisfaction

Summary: In recent years, technological advances have allowed the generation and access to large volumes of data in different online environments. Social media platforms can be one of the mediums to generate data in the university environment related to the perception of satisfaction that is generated through surveys with categorical response questions. This article aims to identify the factors that influence the satisfaction of university students about their learning in virtual environments as it would be contributing to the improvement of the quality of the education.

Motivation: To analyze the effectiveness of Sentiment Analysis in opinion based texts and develop an algorithm that will detect and extract sarcasm in product reviews to understand the gist of the text.

Contribution: To identify which factors should be improved by the teacher in order to have a preponderant effect on improving student satisfaction and improving academic quality.

Methodology:

- Data Collection: The data generated in every session and collection period from week 9-13.
- Pre-Processing, analysis of sentiments polarization and data extraction: Eliminating repeated texts, individual characters, polarizing the comments.
- Development of the proposed model through Python in the JupyterLab environment: Installing various libraries and preprocessing, extracting using programming codes.
- Results: The results of the word extraction shown in which in order to improve the performance and precision of the extraction it was defined that "max_features" is equal to 10, "min_df" equal to 10 and "max_df" equal to 0.7

Conclusion: Sentiment analysis and the TF-IDF technique were used to identify the elements. Text mining and NLP approaches can be used to obtain a reference point on student satisfaction. The key elements that make a major contribution to the pleasure of virtual learning are those that are associated with the effectiveness of the teacher while using simulation technologies to help students understand the lessons.

Limitations:

- Contextual Understanding : Reviews posted by users might lack context or subtle cues that might make the program difficult to interpret.
- Data Imbalance : It can affect the program's ability to learn sarcasm patterns adequately, leading to biased predictions favoring the majority class (non-sarcastic reviews).

Synthesis:

- To implement data science techniques and sentiment analysis relying on social networks.
- The results obtained could be compared with those obtained through traditional techniques and instruments for evaluating teacher performance satisfaction.