A DATA DRIVEN INSIGHTS ON SENTIMENT ANALYSIS AND TEXT CLASSIFICATION

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NATURAL LANGUAGE PROCESSING

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GROUP 16

GITHUB LINK : https://github.com/NplGroup16/nplassignment1

GOALS AND OBJECTIVES:

In today's data-driven world, the understanding of textual data has developed into the cornerstone of making informed decision making across different organization domains. (Kowalski, 2008) 'The power of data-driven decision-making in the modern business lies not only their ability to inform strategies and operations but, in the potential, to drive innovation, making it a cornerstone organization'. Sentiment analysis and text classification are two the most related topic in the study of natural processing language. This project will explore the field of Sentiment analysis and text classification, each with unique motivation, significance, objectives and features.

Motivation for studying Sentiment analysis and Text classification:

Our motivation for diving into the study of Sentiment analysis and Text classification involve. Firstly, the two fields offer us the means in understanding human communication, which in turns allows us to understand vast textual data that is generated daily via the internet and various domains. Secondly, this study will provide us a critical lens for analyzing customer feedback and options, which is critical in the digital age where customer satisfaction is important for organization survival.

Moreover, the techniques empower personalization, to help user experiences through recommendation systems and content curation algorithm. Additionally, businesses do employ sentiments analysis to help manage their social brand reputation in older to adapt in fast changing market. Lastly, Sentiment analysis also poses broader applications that are paramount in political and social science, this can enable us gauge public option on policies, political figures and many other. 'Sentiment analysis and text classification provides us critical tools in understanding public position, enabling better decision-making. Pang, B., & Lee, L. (2008).

Significance of Studying Sentiment Analysis and Text Classification:

The significance of our endeavors be cited on the potential to the data-driven decision making. By understanding sentiment analysis and text classification, organizations and businesses will be able to make informed choice, allocate fund and resources efficiently and respond quickly in emerging market trends or issues. Furthermore, these two fields can significantly impact customer relation management and loyalty, by addressing worries and improving services.

In the modern competitive market landscape, companies' ability to leveraging these tools gain a foot hole in the competitive edge, adapting to the vast changing conditions and maintaining a strong market presence. Content management that is highly driven by Text classification can enhance user experience, making It easier user to find important information or services.

Finally, our research helps us understand the field natural language processing and machine learning that will help us Forster innovation and improve our understanding algorithms with application across various domain.

Objectives:

Identifying the sentiment of a text:

a. This is used to understand the opinion of a text, such as positive, negative, or neutral.
b. This information can be used for different purposes, such as:
    - Monitoring customer satisfaction
    - Identifying brand crises
    - Understanding public opinion on a particular product or topic.

Classifying a text into a category:

a. This can be used to organize texts into different clusters, such as product review, customer support tickets.
b. Information can be used for different purposes, such as:
    - Assigning customer support tickets to the respective department
    - Suggesting products to customers based on their interests.
    - Identifying trends in customer feedback

Features:

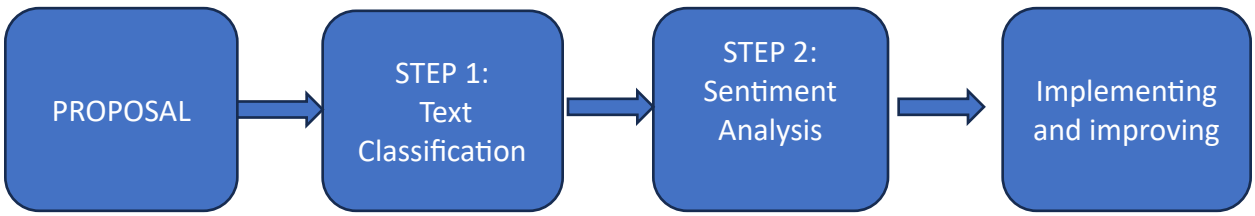
- **Sentiment analysis**: This feature is mainly used to identify the sentiment of a text, such as positive, negative, or neutral. Sentiment analysis typically use a variety of methods, such as structure of a sentence, punctuations of a text.

- **Text classification:** This feature is used to classify a text into a category, such as product reviews, customer support tickets. Text classification algorithms typically use a variety of techniques, such as analyzing the words and phrases in a text. In addition to these general features, a sentiment analysis and text classification system may also have more specific features depending on its application. For example, a system that is used to analyze product reviews may have features for identifying customer main points or predicting customer behavior.

Conclusion:

In conclusion, our project aims to deepen our understanding of Sentiment Analysis and Text classification and how this power tool is used in the data driven decision making. By herness and advancing in these fields we look to empower business, organization and policymakers with the tools and intuition needed to be excellent in a data-rich world.

Our project's objectives aim to develop and implement a robust sentiment analysis and text classification models, adopting them to real world dataset, and illustrate their practical values in areas such as customers relation management, brand management and market demographics research, through this study we be able to understand informed decision making across diverse domains.



References:

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