**PROJECT SYNOPSIS ON**

**SENTIMENT ANALYSIS ON ARTICLES**

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

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**Introduction**

This project is based on NLP that means Natural Language Processing. Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken and written -- referred to as natural language. It is a component of artificial intelligence.

Sentiment analysis is the process of using natural language processing, text analysis, and statistics to analyze customer sentiment. The best businesses understand the sentiment of their customers -- what people are saying, how they’re saying it, and what they mean. Customer sentiment can be found in tweets, comments, reviews, or other places where people mention your brand. Sentiment Analysis is the domain of understanding these emotions with software, and it’s a must-understand for developers and business leaders in a modern workplace.

As with many other fields, advances in deep learning have brought sentiment analysis into the foreground of cutting-edge algorithms. Today we use natural language processing, statistics, and text analysis to extract, and identify the sentiment of words into positive, negative.

To address the context issue, a lot of research surrounding sentiment analysis has focused on feature engineering. Creating inputs to a model that recognize context, tone, and previous indications of sentiment can help increase accuracy and get a better overall sense of what the author is trying to say. For an interesting example, check out this paper in Knowledge-Based Systems that explores a framework for this kind of contextual focus. Search engines also use a similar technique called semantic search that determines the intent and contextual meaning of users’ search terms.

Finally, one more challenge in sentiment analysis is deciding how to train the model you’d like to use. There are a number of pre-trained models available for use in popular Data Science languages. For example, TextBlob offers a simple API for sentiment analysis in Python, while the Syuzhet package in R implements some of research from the NLP Group at Stanford.

**Objectives**

The main objective of this project is to provide a system where users can read or analyze what kind of article they are reading? Some of the objectives are listed below:

* Providing a GUI based Python software to the user.
* To analyze the articles based on the current analyzed data available.
* This system can also help us to track the misinformation spreading around.
* To determine whether the data is positive, neutral or negative.

**Feasibility Study**

Feasibility study can help you determine whether or not you should proceed with your project. It is essential to evaluate cost and benefit. It is essential to evaluate cost and benefit of the proposed system. Five types of feasibility study are taken into consideration.

* **Technical feasibility:**

Sentiment analysis (or opinion mining) uses NLP to determine whether data is positive, negative or neutral. Sentiment analysis is often performed on textual data to help businesses monitor brand and product sentiment in customer feedback, and understand customer needs. Sentiment analysis is the use of natural language processing (NLP), machine learning, and other data analysis techniques to analyze and derive objective quantitative results from raw text.

* **Economic feasibility:**

Here, we find the total cost and benefit of the proposed system over current system. For this project, the main cost is documentation cost. As far as maintenance is concerned, Sentiment Analysis of Articles won’t cost too much.

**Methodology / Planning of work**

For any project to be completed in time that works effortlessly, it needs a lot of planning. So, we have decided a straight forward plan for the development of the project which is described below:

1. Research about the project to know the required libraries that will be in out project.
2. Designing a proper structure for all the components on a paper and after that implement it.
3. Creating small components in parts.
4. Creating the backend and functionalities required for the project.
5. Creating a proper connection to connect all the modules.
6. Testing the backend part to find ambiguities and bugs.
7. Creating a proper GUI for the project.
8. Building all the components one by one as per our project need.
9. Testing all the frontend GUI for the project.
10. At last proper building of the project.

**Module & Team Member wise Distribution of work**

***Work distribution and deadline table for Ankit Kumar/19BCS1561***

|  |  |
| --- | --- |
| **WORK** | **DEADLINE** |
| Article Scrapping module | 01-10-2021 |
| Testing all modules | 14-11-2021 |

***Work distribution and deadline table for Tushar Lohani/19BCS1559***

|  |  |
| --- | --- |
| **WORK** | **DEADLINE** |
| Sentiment Data Analysis | 05-10-2021 |
| Testing module | 14-11-2021 |

***Work distribution and deadline table for Sakshi Kumari/19BCS1570***

|  |  |
| --- | --- |
| **WORK** | **DEADLINE** |
| GUI of the project | 15-11-2021 |
| Documentation | 15-11-2021 |

**Innovations in Project**

* The project is to create a GUI based Sentiment Analyzer to make user experience smoother.
* The project will not require high storage.
* Sentiment analysis aims to make sense of the Internet of People.

**Platform independence:**

The project can be operated in any operating system either it is Windows, Linux, Ubuntu or MacOS.

**Unlimited uses:**

The project can be used unlimited times rather than any type of limit

**Software and Hardware requirement:**

For this project, we will require the following software and hardware:

**Hardware Requirements:**

* Processor Base Frequency of 1.8 GHz or higher
* 8 GB RAM or more
* 256 MB of available disk space or more
* Internet Connection

**Software Requirements:**

* Visual Studio Code 1.50.x or higher
* Python
* Figma or equivalent software
* Git

**Bibliography**

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