CSE-713 Group-Presentation

Title: An Efficient Machine Learning Approach to Detect Sentiments from Text Data.

Group Members:

- NAZMUL KARIM TANVIR (23166011)
- TOUFIQUL ALAM SAMS (24166027)
- TASNIM FUYARA CHHOAN (23366035)
- SAMIN YASAR (23273007)

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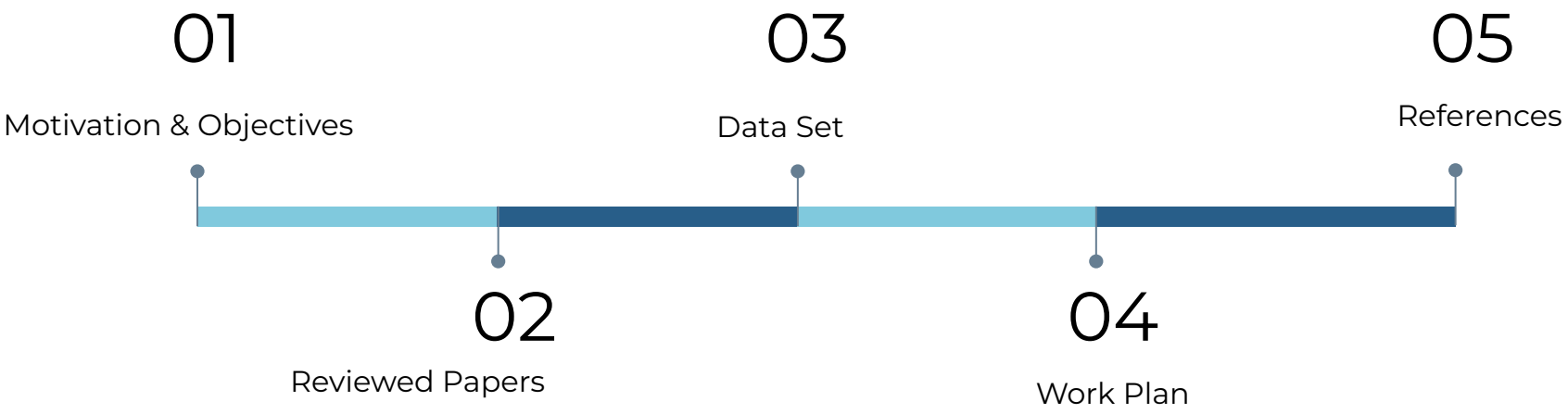


Motivation:

- Understanding Human Emotions
- Enhancing NLP systems
- Improve Decision Making Abilities
- Mental Health Analysis

Research Objective:

- Comprehend sentiment analysis
- Increase level of mid polarities of the datasets
- Bias issues

Sample Reviewed Papers

Paper 1

Title: News text Analysis using Text Summarization and Sentiment Analysis based on NLP
The paper introduces a text summarization model using natural language processing (NLP) and sentiment analysis to address information overload. It uses the NLTK library and Python for sentiment analysis, achieving 91.67% accuracy. However, its reliance on a self-generated dataset and specific tools may limit its generalizability and flexibility. Future work aims to enhance the model with advanced tools, NLP techniques, and a recommendation system for broader applicability across different domains and languages.

Paper 2

Title: Sentiment Analysis of Covid-19 Tweets using Twitter Database–A Global Scenario
The study "Sentiment Analysis of Covid-19 Tweets using Twitter Database–A Global Scenario" offers a comprehensive exploration of global sentiments during the pandemic. By analyzing Twitter data from various regions, the research highlights the prevalence of sadness and fear, particularly in developing countries like India. However, limitations such as platform dependency and sarcasm detection challenges underscore the need for nuanced interpretation of findings.

Sample Reviewed Papers

Paper 3

Title: **Sentiment Analysis of Weather-Related Tweets from Cities within Hot Climates**
Through an analysis of weather-related tweets from Phoenix and Singapore, this study identified a pattern of higher pain during temperature rises. Singapore was always negative, although Phoenix's feelings changed with the seasons. These results show how regional opinions are reflected on social media: tweets from Phoenix mimic weather forecasts, and Singaporeans express dissatisfaction. Additionally, the data points to long-term heat repercussions and vulnerability to local climate events.

Paper 4

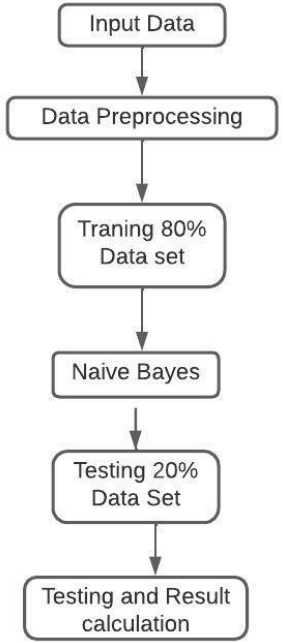
Title: Sentiment Analysis on Tourism Place using Naive Bayes
The paper introduces a robust framework for news text analysis through NLP-based summarization and sentiment analysis. It addresses information overload by efficiently extracting insights from large textual datasets. Despite limitations, its accuracy and utility render it valuable across industries. Further research is needed to enhance its capabilities across domains and languages.

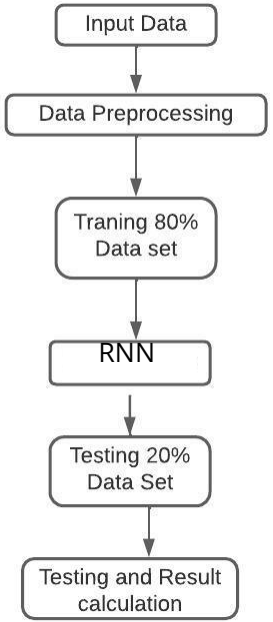
Data analysis

Dataset - 10,000 Spotify review

Time_submitted	review	sentiment	Total_thumbsup
07-09-22 15:00	Great music service, the audio is high quality and t	5	2
07-09-22 14:21	Please ignore previous negative rating. This app is	5	1
07-09-22 13:27	This pop-up "Get the best Spotify experience on A	4	0
07-09-22 13:26	Really buggy and terrible to use as of recently	1	1
07-09-22 13:20	Dear Spotify why do I get songs that I didn't put o	1	1
07-09-22 13:20	The player controls sometimes disappear for no r	3	7
07-09-22 13:19	I love the selection and the lyrics are provided wit	5	0
07-09-22 13:17	Still extremely slow when changing storage to ext	3	16
07-09-22 13:16	It's a great app and the best mp3 music app I have	5	0
07-09-22 13:11	I'm deleting this app, for the following reasons: Th	1	318
07-09-22 13:11	Love Spotify, and usually this app is the best, but a	2	1
07-09-22 13:10	Can't play Spotify when on WiFi	1	1

- **Workflow**





Naive Bayes Model

- **$P(A|B) = \frac{P(B|A)}{P(B)}$**
- **Multinomial Naive Bayes**
- **Complement Naive Bayes**

References

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Thank you
Any Question ?