International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 07 Issue: 08 | August - 2023 SJIF Rating: 8.176 ISSN: 2582-3930

Sentiment Analysis of Educational Institutions for Getting Admission

Arpita Patil[1], Mutyala Sridevi [2]

[1]Department Of Masters Of Computer Application, BMS Institute Of Technology And Management ,Bangalore, Karnataka, India
[2]Department Of Masters Of Computer Application, BMS Institute Of Technology And Management, Bangalore, Karnataka, India

---

Abstract - The "Sentiment Analysis of Educational Institutions for Admissions" project introduces a dynamic web application that leverages sentiment analysis techniques to provide valuable insights into the sentiment associated with reviews of various educational institutions. Sentiment analysis, a subset of Natural Language Processing (NLP), is employed to gauge the sentiment expressed in text, categorizing it as positive, negative, or neutral. The project aims to facilitate decision-making for potential admissions by offering a comprehensive view of sentiment trends.

The web application utilizes the VADER (Valence Aware Dictionary and sentiment Reasoner) sentiment analysis tool to analyze reviews of educational institutions. Upon uploading review datasets, the application processes and visualizes the sentiment distribution, providing users with an overview of the sentiment patterns within different institutions. The system's interface allows users to select specific educational institutions for sentiment analysis, presenting a percentage breakdown of positive, negative, and neutral sentiments in the reviews.

Furthermore, the project introduces a ranking mechanism that ranks educational institutions based on their sentiment scores and reviews. This feature offers users a streamlined method to compare institutions and make informed decisions regarding potential admissions. To enhance the presentation of sentiment analysis results, the project employs the Matplotlib library to generate pie charts illustrating sentiment distribution and admission likelihood percentages.

The project's web application not only showcases the application of sentiment analysis in real-world scenarios but also serves as a practical tool for students, parents, and educational institutions. By incorporating sentiment analysis into the admissions process, the project offers a fresh perspective on evaluating educational institutions' reputation and quality through the lens of sentiment expressed in review

I. INTRODUCTION

In the digital age, academic institutions face the ongoing challenge of managing examinations efficiently and effectively. Traditional examination systems often involve cumbersome paperwork, time-consuming processes, and

Potential errors. To address these shortcomings, there is a growing need for a modern and comprehensive web-based examination system that can streamline assessment processes, enhance faculty productivity, and improve the overall learning experience for students.

The Sentiment Analysis of Educational Institutions project introduces a web application that harnesses the power of sentiment analysis to evaluate sentiments expressed in reviews of educational institutions. This innovative application serves as a valuable tool for prospective students, parents, and educational institutions to gain insights into the prevailing public sentiment surrounding various colleges and universities. By utilizing the VADER sentiment analysis tool, the system processes a diverse range of reviews and categorizes them as positive, negative, or neutral. This sentiment analysis methodology forms the foundation for comprehending the broader perception of educational institutions within the public domain. The core of the project revolves around its interactive interface, where users can effortlessly upload review datasets and select specific educational institutions for sentiment analysis. The application then visually represents sentiment distributions through user-friendly pie charts, enabling users to promptly grasp sentiment trends associated with different educational institutions

II. RELATD WORK

The sentiment analysis of educational institutions for admission purposes is a burgeoning field that intersects the realms of sentiment analysis, education, and decision-making. This section presents a review of the existing literature and related work that have explored sentiment analysis in the context of evaluating educational institutions for prospective admission seekers.

1. Sentiment Analysis in Education:

Prior research has extensively employed sentiment analysis to analyze sentiments in various educational contexts. Studies have explored sentiment analysis in student feedback and course evaluations, aiming to extract insights about teaching quality, course content, and overall student satisfaction. Such analyses provide a foundation for understanding sentiment within educational settings.

2. Online Reviews and Educational Institutions:

Research has focused on sentiment analysis of online reviews for educational institutions. These studies have applied sentiment analysis techniques to assess sentiments expressed in student reviews and testimonials, shedding light on aspects such as campus life, faculty support, infrastructure, and career prospects. Findings from these analyses contribute to prospective students' understanding of institutional qualities.

3. Sentiment Analysis for Decision-Making:

Existing literature highlights the role of sentiment analysis in decision-making across industries. Studies have examined sentiment analysis as a tool for guiding consumer choices in areas like product purchases and service selection. Translating this approach to the educational domain, sentiment analysis aids prospective students in making informed decisions about educational institutions based on the sentiments expressed by others.

4. Comparative Sentiment Analysis:

Some research has explored the application of sentiment analysis to compare and contrast sentiments across multiple educational institutions. By aggregating sentiment scores and sentiments from diverse sources, these studies provide a comprehensive sentiment overview, enabling prospective students to differentiate between institutions based on the emotional tone associated with each.

5. Challenges and Limitations:

Literature also acknowledges challenges and limitations of sentiment analysis. The subjectivity of sentiment interpretation, linguistic nuances, and the potential impact of outliers are factors that can influence the accuracy of sentiment analysis results. Understanding these challenges is crucial for interpreting sentiment scores accurately.

6.Integrating Sentiment Analysis with Traditional Metrics:

Scholars emphasize the need to combine sentiment analysis with conventional metrics when evaluating educational institutions. Sentiment analysis augments traditional research methods by providing a qualitative layer of information that complements quantitative data.

7. Ethical Considerations:

Researchers have addressed ethical concerns related to sentiment analysis, including privacy issues, bias in sentiment labeling, and potential manipulation of sentiment expression. Ensuring the ethical use of sentiment analysis results is an important consideration.

the existing literature underscores the applicability of sentiment analysis in evaluating educational institutions for admission seekers. By leveraging sentiment analysis techniques, prospective students can gain insights into the emotional landscape associated with different institutions, enriching their decision-making process. However, a holistic approach that integrates sentiment analysis with traditional research methods and considers ethical considerations is essential for a comprehensive evaluation. This study builds upon this foundation by proposing a systematic approach to sentiment analysis of educational institutions, catering specifically to the admission-seeking context.

III. WORKFLOW

1. Data Collection:- Gather textual data from various sources such as online reviews, social media platforms, forums, and official websites of educational institutions. - Extract reviews, comments, and discussions related to the targeted educational institutions.

2. Text Preprocessing:- Clean and preprocess the collected textual data by removing noise, special characters, and irrelevant information. - Tokenize the text into words or phrases.

- Perform text normalization techniques like stemming or lemmatization to reduce words to their base forms.

3. Sentiment Analysis using Polarity Words: - Develop a list of polarity words, including positive and negative words that indicate sentiment (e.g., "excellent," "disappointing," "outstanding," "poor").

- Assign sentiment scores to each review by counting the occurrence of positive and negative polarity words.

4. Presentation and User Interface: - Design a user-friendly interface to input institution names or criteria.- Display the generated graphs along with additional information to assist users in their decision-making process.

5. Testing and Iteration: - Test the proposed method on a diverse set of educational institutions and reviews.- Gather feedback from users and stakeholders to refine the method and improve the accuracy of sentiment analysis.

The proposed method leverages polarity words and graph generation to perform sentiment analysis of educational institutions for admission purposes. By quantifying sentiment scores and presenting them visually through graphs, prospective students can gain valuable insights into the emotional perception of different institutions, facilitating a more informed decision-making process. It is essential to continuously validate, refine, and enhance the method to ensure accurate sentiment analysis and meaningful results.

IV. IMPLEMENTATION

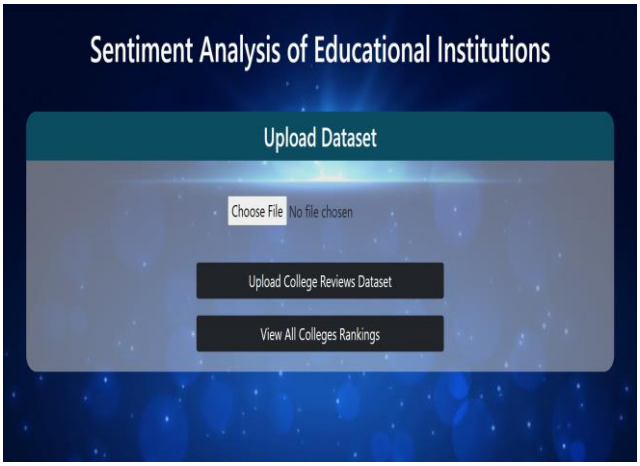

Fig 1: Interface for Uploading the Dataset

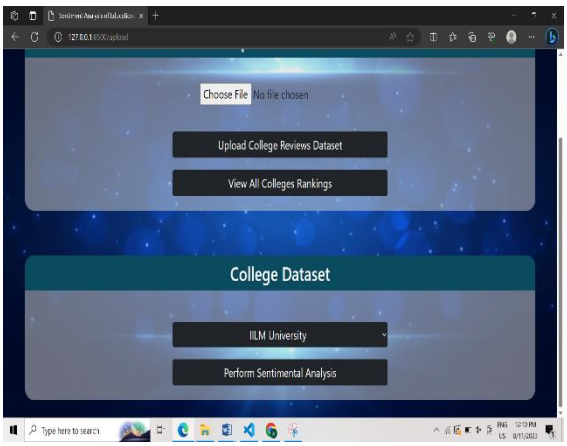

Fig 2: Processing the Dataset

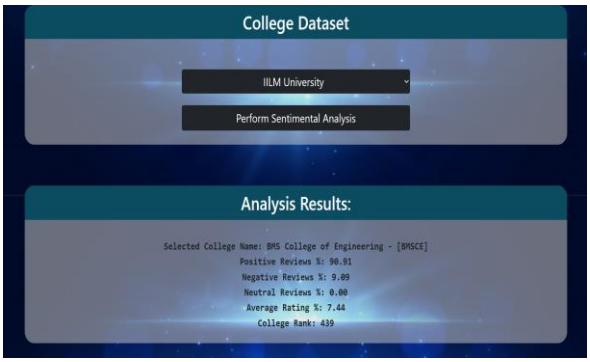

Fig 3: Result Analysis For Given Dataset

V. SIMULATION RESULT

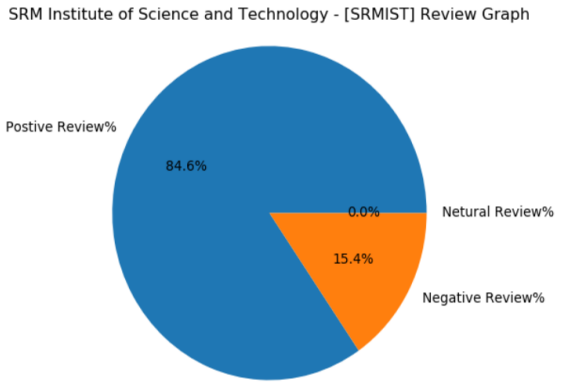

Fig 4: Final Graph Of Given College Dataset

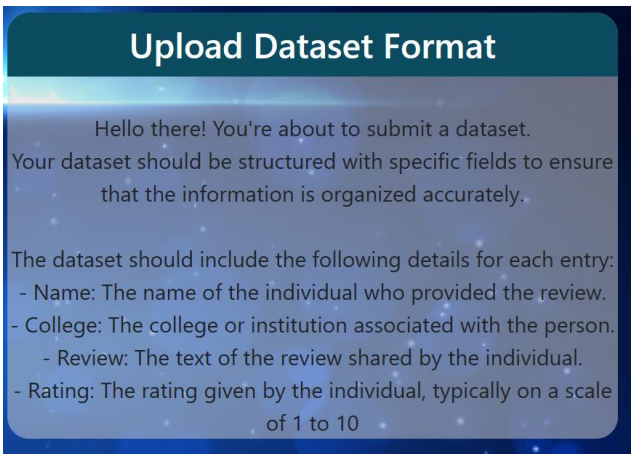

Fig 5: Message displayed Of the Dataset to be uploaded by users

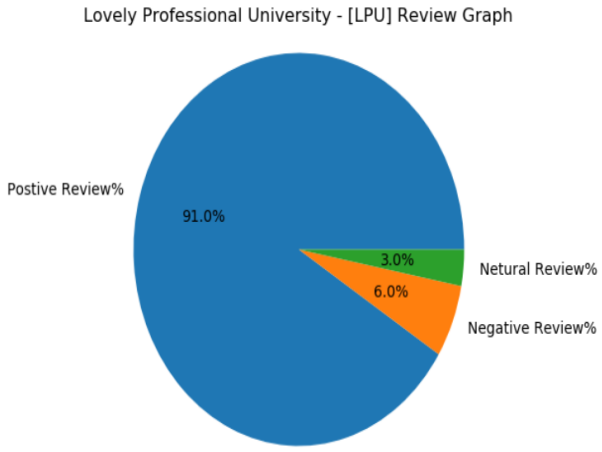

Fig 6: Final Graph Of College Dataset

The sentiment analysis of educational institutions for admission purposes, coupled with polarity words and graph generation, offers a dynamic and insightful approach to aid prospective students in making well-informed decisions. This study has demonstrated a systematic method to assess the emotional landscape surrounding educational
Institutions, providing a complementary layer of information to traditional metrics. The following key takeaways emerge from this research:

1. Enhanced Decision-Making: By harnessing sentiment analysis, prospective students can gain deeper insights into the perceptions and experiences of others regarding different educational institutions. This sentiment-based perspective supplements quantitative data, enabling a more holistic evaluation process.

2. Graphical Representation: The incorporation of polarity words and graph generation provides an intuitive visual representation of sentiment scores. This graphical approach simplifies the understanding of sentiment distributions and allows for easy comparisons among institutions.

3. Subjective Evaluation: Sentiment analysis captures subjective opinions and sentiments expressed in reviews and discussions. This qualitative dimension adds nuance to the decision-making process, allowing individuals to align their preferences and aspirations with the emotional tone associated with an institution.

4. Supplementary Information: While sentiment analysis contributes valuable insights, it is recommended to consider the results in conjunction with other critical factors, including academic programs, faculty expertise, campus facilities, and financial considerations. A holistic evaluation approach ensures a comprehensive decision-making process.

5. Ethical Considerations: As with any data-driven analysis, ethical considerations must be prioritized. Transparency in methodology, addressing privacy concerns, and acknowledging potential biases in sentiment analysis contribute to the responsible use of this approach.

6. Continuous Refinement: The proposed method is subject to improvement through ongoing validation, model refinement, and user feedback. Adapting the sentiment analysis model and polarity word list based on real-world data enhances the accuracy and relevance of the results.

Sentiment analysis with polarity words and graph generation is a valuable tool that empowers prospective students with a multidimensional view of educational institutions. By embracing this method, individuals can embark on their academic journey with heightened confidence, informed by both quantitative and qualitative insights. As educational landscapes evolve, the fusion of sentiment analysis and traditional evaluation methodologies stands as a promising avenue to guide students toward institutions that resonate with their aspirations.

CONCLUSION

In conclusion, the "Sentiment Analysis of Educational Institutions for Admissions" project demonstrates the capabilities of sentiment analysis within a user-friendly web application. The system's features, including sentiment analysis, sentiment visualization, and institution ranking, collectively contribute to informed decision-making and promote transparency in the admissions process. This project bridges the gap between sentiment analysis and educational institutions, offering a novel approach to evaluating institutions based on public sentiment.

REFFERENCES

[1] Toshita Chandurkar, Dr. Pritish Tijare, "Sentiment Analysis: A Review and Comparative Analysis on Colleges", International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT), UGC Approved – 64718, ISSN: 2456-3307, Volume 7 Issue 2, pp. 526-531, March-April 2021.

[2] Nageswara Rao Moparthi, Dr. N.Geethanjali, “Design and implementation of hybrid phase based ensemble technique for defect discovery using SDLC software metrics”, An International Conference by IEEE, AEEICB16 (978-1-4673-9745-2) PP. 269-276, IEEE 2018.

[3] Wei Zhao, et.al., "Weakly-Supervised Deep Embedding for Product Review Sentiment Analysis", IEEE Transactions on Knowledge and Data Engineering, Vol. 30, No. 1, 185, 2018.

[4] Rui Xia, Feng X, ChengqingZong, Qianmu Li, Yong Qi, Tao Li,Dual, “Sentiment Analysis: Considering Two Sides of One Review”, IEEE Transactions On Knowledge And Data Engineering, VOL. 27, NO. 8, AUGUST 2015.

[5] Ch. Nanda Krishna, Dr. P. Vidya Sagar, Dr. Nageswara Rao Moparthi, ”Sentiment Analysis of Top Colleges”, 4th International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB-18), 2018

[6] Chaturvedi, S., Mishra, V., & Mishra, N., “Sentiment analysis using machine learning for business intelligence”, International Conference on Power, Control, Signals and Instrumentation Engineering IEEE (ICPCSI), 1(1), 2162–2166, 2017.

[7] Dr. S. Gomathi, Rohini, Punitha. R, “Sentiment Analysis of Google Reviews of a College”, International Conference on Computing Intelligence and Data Science (ICCIDS) 2018.

[8] Mais Yasen, Sara Tedmori, “Movies Reviews Sentiment Analysis and Classification”, Jordan International joint conference on Electrical and Information Technology (JEEIT), IEEE 2019.

[9] Suci Laila Ramdhani, Rachmadita Andreswari, Muhammad Azani Hasibuan, “Sentiment Analysis of Product Reviews using Naïve Bayes Algorithm: A Case Study”, The 2nd East Indonesia Conference on Computer and Information Technology (EIConCIT), 123-127, IEEE 2018.

[10] Vivek Narayanan, Ishan Arora, Arjun Bhatia, “Fast and Accurate Sentiment Classification Using an Enhanced Naïve Bayes Model”, Intelligent Data Engineering and Automated Learning – IDEAL, Springer, Vol. 8206, 2013.

[11] Nontobeko Hlongwane, Yo-Ping Huang, Li-Jen Kao, “Using Sentiment Analysis to Determine Users’ Likes on Twitter”, 16th Int. Conf. on Dependable, Autonomic & Secure Comp., ©2018. [12] Dr. K. A. Waghmare, Miss. Sheetal K. Bhala, “Survey Paper on Sentiment Analysis for Tourist Reviews”, 2020 International Conference on Computer.