

Review Form 3

Journal Name:	Journal of Scientific Research and Reports
Manuscript Number:	Ms_JSRR_127894
Title of the Manuscript:	Machine Learning and Deep Learning Algorithms for Aspect-Based Sentiment Analysis in Education
Type of the Article	Research Article

PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript is of great importance to the scientific community, particularly in the field of Aspect-Based Sentiment Analysis (ABSA) and its application in educational feedback. It provides a thorough comparison of various machine learning (ML) and deep learning (DL) models, highlighting their strengths and weaknesses. The findings can guide educational institutions in utilizing ABSA techniques for improving course quality and student experience . The use of advanced models like BERT for multi-aspect sentiment classification sets a significant precedent for future research in educational technology and sentiment analysis.	
Is the title of the article suitable? (If not please suggest an alternative title)	Yes, the title is appropriate as it clearly reflects the focus of the paper on Aspect-Based Sentiment Analysis and its application to educational feedback. It could be enhanced slightly for clarity, such as "Aspect-Based Sentiment Analysis for Educational Feedback: A Comparison of Machine Learning and Deep Learning Models."	

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<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>The abstract is well-written and covers the key aspects of the study. However, the abstract could briefly mention the significance of BERT's performance in the sentiment classification task, as this is a core finding of the study. Suggest adding a short sentence highlighting BERT's superiority in handling complex, multi-aspect feedback.</p>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>Yes, the manuscript is scientifically sound. The models have been evaluated using appropriate metrics such as precision, recall, and F1-scores, and the results are well-supported by data. The comparison between ML and DL models is comprehensive, and the conclusions are logically drawn from the findings. However, here are some suggestions for improvement in each section</p> <p>Introduction: The introduction correctly identifies the research gap and the significance of ABSA in educational feedback. The objectives of the study are clearly stated, and the background research is well-structured</p> <p>Methodology: The choice of models (BERT, LSTM, MLP, RF, SVM, NB) is scientifically sound. The explanation of the data preprocessing steps, aspect extraction, and sentiment classification is clear. However, the manuscript could benefit from including mathematical formulations or pseudo-code for key steps in the methodology, such as the aspect extraction process, sentiment classification, or feature engineering (e.g., TF-IDF, SVM decision functions, etc.). Including these would offer more transparency and allow readers to better understand the underlying mechanisms driving the models' performance. It would be beneficial if the authors provide a bit more detail on data augmentation or any balancing techniques used to address potential class imbalance, especially in the sentiment classification task.</p> <p>Models and Algorithms: The models selected (BERT, LSTM, MLP, RF, SVM, NB) are appropriate and widely used. The justification for each model is clear, and their performance is accurately presented. The application of BERT for aspect-specific sentiment classification is a strength, but a discussion on its potential limitations, particularly regarding resource requirements for large-scale implementation in real educational settings, would be beneficial.</p> <p>Results and Discussion: The results are accurately presented, with a clear comparison of models. BERT outperforms the others in terms of precision, recall, and F1-scores. The discussion on the limitations of traditional ML models (RF, SVM, NB) is valid, especially regarding their inability to capture contextual dependencies.</p> <p>Conclusion: The conclusion effectively summarizes the findings, emphasizing the importance of BERT for multi-aspect sentiment analysis in educational feedback. The suggested future research directions, including multilingual datasets and hybrid models, are relevant and timely.</p> <p>Suggestions for Improvement: Provide more details on handling overlapping aspects or conflicting sentiments (e.g., praise for content vs. criticism of instructors). A brief mention of ethical considerations related to student feedback data would strengthen the manuscript</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references are generally sufficient and up-to-date. However, it may be beneficial to include some recent studies on ABSA in multilingual contexts or cross-domain applications of ABSA, especially considering the potential expansion of this research to other fields beyond education.</p>	

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Is the language/English quality of the article suitable for scholarly communications?	Yes, the language and overall writing quality of the manuscript are suitable for scholarly communications. There are no major grammatical issues, and the paper is clearly structured.	
Optional/General comments	<p>The paper does a commendable job of explaining the nuances of ABSA in educational feedback. Future studies might explore hybrid models or focus on improving model efficiency for educational institutions with limited computational resources.</p> <p>The manuscript appears to be free from ethical issues, as it does not involve human subjects, medical data, or any other sensitive ethical concerns. However, it is always advisable to explicitly mention the ethical considerations in the methodology section if applicable, especially when working with student feedback.</p> <p>No, there are no competing interest issues in this manuscript.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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