Review of: "Information Technology for Detecting Fakes and Propaganda Based on Machine Learning and Sentiment Analysis"

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Potential competing interests: No potential competing interests to declare.

The paper offers valuable ideas into the detection of disinformation, but several areas require critical review and recommendations for improvement to meet the standards of the journal.

- The paper lacks clarity in its structure, making it challenging to follow the progression of ideas. The introduction provides an overview of the problem of disinformation but lacks a clear thesis statement or research objectives. Furthermore, the paper lacks clear subsections, making it difficult to navigate between different topics such as NLP, multimodal analysis, and sentiment analysis. A clear and logical structure is essential for ensuring coherence and readability.
- Recommendation: The authors should revise the introduction to include a clear thesis statement outlining the research objectives. Additionally, they should consider restructuring the paper into distinct subsections for each technique discussed, providing a clear framework for readers to follow.
- While the paper briefly introduces various techniques for detecting disinformation, it lacks depth in the analysis of each method. For example, the section on sentiment analysis provides a general overview of its importance but fails to delve into specific methodologies or case studies. Similarly, the discussion on machine learning briefly mentions supervised and unsupervised learning but lacks detailed explanations or empirical evidence of their effectiveness in detecting propaganda.
- Recommendation: The authors should provide a more in-depth analysis of each technique, including detailed explanations of methodologies, case studies, and empirical evidence of effectiveness. This would enhance the scholarly rigor of the paper and provide readers with valuable insights into the practical application of these techniques.
- The paper lacks transparency regarding the methodology used to conduct sentiment analysis and compare propaganda and non-propaganda materials. While the authors mention the use of the TextBlob library, they do not provide details on how sentiment scores were calculated or how the datasets were selected. Additionally, the lack of statistical analysis or validation of results undermines the credibility of the findings.
- Recommendation: The authors should provide a detailed description of the methodology used for sentiment analysis, including the specific parameters and algorithms employed. Furthermore, they should conduct statistical analysis to validate the results and ensure the reliability of their findings. Providing transparency and methodological rigor is essential for establishing the credibility of the research.

- The paper lacks critical reflection on the limitations of the proposed techniques and potential ethical concerns. While it briefly mentions biases in training data and the challenge of contextual understanding, it does not explore these issues in depth or offer strategies for addressing them. Additionally, the paper overlooks the broader socio-political implications of detecting disinformation, such as censorship and freedom of expression.
- Recommendation: The authors should critically reflect on the limitations of their research, including biases in training data, challenges in contextual understanding, and potential ethical concerns. They should also discuss strategies for mitigating these limitations and address the broader socio-political implications of detecting disinformation. Providing a nuanced understanding of the limitations and implications of the research is essential for ensuring its relevance and applicability in real-world contexts.
- Overall, the paper needs to be rereviewed and to include more justifications on the selections of the methods and needs to discuss the results and findings and to show the completeness of the used methods against the benchmarks. Why is your method needed? What is wrong with the existing methods? What makes yours unique? Plus, why did you pick this method and not other methods? There are many published works discussed in the literature that used many methods and algorithms and different datasets. Why didn't you pick the most effective ones to compare your work with?