Review of: "Automatic Content Analysis Systems: Detecting Disinformation in Social Networks"

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Potential competing interests: No potential competing interests to declare.

1. Overemphasis on "Laboratory" Dataset Quality

- **Issue**: The paper mentions the high performance of the models, particularly the F1-score of 0.98, but attributes this success to the "laboratory" quality of the dataset. This raises concerns about the model's generalizability to real-world scenarios, where data is often more diverse and noisy.
- **Suggestion**: The authors should either include experiments on more realistic, heterogeneous datasets or clearly address this limitation, discussing the potential drop in performance and how the models could be adapted or improved for practical applications.

2. Lack of Detailed Justification for Method Selection

- **Issue**: While the paper discusses various machine learning techniques and NLP methods, it does not provide sufficient justification for choosing certain models over others. For example, the reasons for selecting SVM and Naive Bayes for disinformation detection are not thoroughly explained, especially in the context of the specific challenges posed by disinformation in social networks.
- **Suggestion**: The authors should include a more detailed rationale for their choice of methods, comparing them with alternative approaches and explaining why the selected methods are particularly suited to the task of disinformation detection.

3. Insufficient Exploration of Real-World Application Challenges

- **Issue**: The paper highlights the importance of detecting disinformation but does not sufficiently address the practical challenges of deploying these detection systems in real-world environments, such as social networks. Issues like the adaptability of the models to different languages, the handling of constantly evolving disinformation tactics, and the integration of these systems into existing platforms are not explored.
- **Suggestion**: The authors should discuss the potential challenges and limitations of implementing their models in real-world scenarios. This could include considerations of scalability, language diversity, and evolving disinformation tactics, along with suggestions for overcoming these challenges.

4. To enhance the depth and relevance of your literature review, especially in areas related to machine learning,

sentiment analysis, and agent-based simulations, I recommend considering the following works:

Kumar, S.A., Nasralla, M.M., García-Magariño, I., & Kumar, H. (2021). *"A machine-learning scraping tool for data fusion in the analysis of sentiments about pandemics for supporting business decisions with human-centric AI explanations."* PeerJ Computer Science, 7, e713. https://peerj.com/articles/cs-713/

This paper discusses the application of machine learning for sentiment analysis in the context of pandemics, which could provide valuable insights for your work on disinformation detection in social networks.

Kumar, S.A., García-Magariño, I., & Nazir, S. (2021). *"Agent-Based Simulators for Empowering Patients in Self-Care Programs Using Mobile Agents with Machine Learning."* Mobile Information Systems, 2021(1), Article ID 5909281. https://onlinelibrary.wiley.com/doi/full/10.1155/2021/5909281

This study on agent-based simulations and machine learning in healthcare could inform your methods section, particularly regarding the use of simulations for analyzing the spread of disinformation.

Nasralla, M.M., Al-Shattarat, B., Almakhles, D.J., Abdelhadi, A., & Abowardah, E.S. (2021).*"Futuristic trends and innovations for examining the performance of course learning outcomes using the Rasch analytical model."* Electronics, 10(6), 727. https://www.mdpi.com/2079-9292/10/6/727

This work could be relevant for understanding the application of analytical models in evaluating outcomes, which might parallel your work on assessing the effectiveness of disinformation detection models.

Incorporating these references could strengthen your literature review by providing a broader context and highlighting relevant methodologies.