Review of: "EEG-based Emotion Classification using Deep Learning: Approaches, Trends and Bibliometrics"

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General Overview

The manuscript presents a comprehensive bibliometric analysis of research trends, patterns, and developments in the field of emotion classification using EEG data and deep learning. By leveraging the Scopus database to analyze 440 articles, the authors aim to highlight the evolution, current status, and future directions of this research area. The paper is well-structured, beginning with an informative abstract that sets the stage for the detailed discussion and analysis that follows in the main sections.

Strengths

1. Comprehensive Data Collection: The thorough methodology used to collect and analyze articles from the Scopus database is commendable. It provides a solid foundation for the bibliometric analysis, ensuring a broad and representative sample of the research landscape in this field.

2. Insightful Analysis: The paper effectively utilizes advanced bibliometric measures to uncover trends and patterns in emotion classification research. The analysis of keywords, citation patterns, and the identification of influential authors and journals offers valuable insights into the field's dynamics and evolution.

3. Multidisciplinary Impact: The discussion section successfully highlights the multidisciplinary impact of emotion classification, particularly in healthcare and human-computer interaction. This underlines the broad relevance and potential applications of the research, extending beyond the technical aspects to societal benefits.

4. Policy Implications: The conclusion emphasizes the potential for the findings to inform policies aimed at improving overall health and fostering social bonds. This perspective adds value by linking the research outcomes to practical, real-world implications.

Areas for Improvement

1. Standardization and Assessment Criteria: The paper identifies the lack of standardized assessment criteria as a major challenge in the field but stops short of proposing concrete solutions or guidelines. Future revisions could benefit from a more detailed discussion on potential pathways or frameworks for standardizing emotion classification methodologies.

2. Future Research Directions: While the paper touches upon current trends and advancements, it could provide a more explicit outline of specific future research directions. This would be particularly useful for guiding new researchers entering

the field or for existing researchers looking for new challenges.

3. Integration with Other Modalities: The paper discusses the importance of multimodal data techniques but does not delve deeply into how EEG data can be integrated with other types of data (e.g., facial expressions, physiological signals) for enhanced emotion classification. Expanding on this aspect could enrich the discussion on future trends in the field.

4. Comparative Analysis: The manuscript could benefit from a comparative analysis with other bibliometric studies in related fields. Such a comparison could provide a broader context and highlight unique trends or challenges in emotion classification research.

Conclusion

Overall, the manuscript provides a valuable contribution to the literature on emotion classification using deep learning and EEG data. Its comprehensive analysis and discussion of bibliometric trends offer insightful perspectives on the field's evolution and current status. By addressing the suggested areas for improvement, the paper could further enhance its impact, providing clearer guidance for future research and a stronger connection to practical applications and policy implications.