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

Hongtao Zhang

Potential competing interests: No potential competing interests to declare.

Overall Comments: The paper provides a comprehensive overview of the current state of EEG-based emotion classification using deep learning techniques. It covers a wide range of topics, including a detailed literature review, bibliometric analysis, and a comparative analysis of recent deep learning methods. The authors have done an excellent job in thoroughly examining the existing research in this field.

Strengths:

1. The literature review is extensive, covering various aspects of EEG-based emotion classification, from traditional machine learning techniques to cutting-edge deep learning approaches.
2. The bibliometric analysis is well-executed, providing valuable insights into publication trends, influential authors, and prominent research themes.
3. The comparative analysis of recent deep learning techniques is informative and well-structured, allowing readers to understand the methodologies and results of the most influential studies.
4. The paper is well-organized and easy to follow, with clear section divisions and appropriate use of figures and tables to support the discussion.

Potential Improvements:

1. While the literature review is comprehensive, it could benefit from a more critical analysis of the limitations and challenges faced by existing approaches, as well as potential future research directions.
2. The bibliometric analysis could be expanded to include more in-depth network analysis, such as co-citation and co-occurrence analysis, to better understand the interconnections between different research areas and topics.
3. The comparative analysis of deep learning techniques could be enhanced by providing more detailed information on the datasets used in each study, as well as a discussion on the generalizability and real-world applicability of the proposed methods.
4. Some sections, particularly the bibliometric analysis, could benefit from more concise and focused writing to improve readability and clarity.

Minor Comments:

1. In the introduction section, it might be helpful to provide a brief overview of the physiological basis of EEG signals and their relevance to emotion classification.

2. The abbreviations used in the paper should be defined consistently throughout the text to avoid confusion for readers unfamiliar with the field.
3. Some of the figures, particularly those related to the bibliometric analysis, could benefit from clearer labeling and captions to enhance their interpretability, e.g., The texts in Figure 9 and 10 are too small to read.

Overall, this paper is a valuable contribution to the field of EEG-based emotion classification using deep learning. With some minor revisions and the incorporation of the suggested improvements, it could become an even more compelling and impactful work.