View Reviews

Paper ID
245

Paper Title
Blood Pressure Estimation from Photoplethysmography Signals: An EdgeML Approach

Track Name
SS_RPMAI

Reviewer #1

Questions

1. Have the authors clearly stated what they have identified in their research?
Yes

2. Is the overall aim of the research clearly stated?
Yes

3. Are the aims of the manuscript and the results of the data clearly and concisely stated in the abstract?
Yes

4. It is certify that I do not have any conflict of interest with author(s) of the paper.
Yes

5. Please Provide score for the reviewed paper.
Accept

6. Reviewer's Confidence
Medium

7. Please provide a detailed review, including justification for your score.
Abstract: The abstract presents the research focus and outcomes clearly, with well-stated objectives.
Literature Review: The review is extensive, covering various ML models for BP estimation, but lacks depth in alternatives to EdgeML.
Methodology: The methodology is strong, particularly in terms of data preprocessing and model evaluation.
Result Analysis: The results are analyzed with appropriate performance metrics,

highlighting model strengths.
Conclusion: The conclusion effectively ties back to the research objectives and suggests future applications.
Score Justification: A comprehensive study with well-executed methodology but room for deeper analysis of limitations. Accept.

Reviewer #2

Questions

1. Have the authors clearly stated what they have identified in their research?
Yes

2. Is the overall aim of the research clearly stated?
Yes

3. Are the aims of the manuscript and the results of the data clearly and concisely stated in the abstract?
Yes

4. It is certify that I do not have any conflict of interest with author(s) of the paper.
Yes

5. Please Provide score for the reviewed paper.
Accept

6. Reviewer's Confidence
Medium

7. Please provide a detailed review, including justification for your score.
The paper has been well structured with all necessary sections. Authors have furnished their research in clear and concise manner. The result analysis along with all figures and tables listed were cited with relevant explanations. While the research focus on accurate BP monitoring through wearables, there are challenges faced by established wearable device providers in the industry today due to multiple reasons such as sensor movement, drift, right fitment of the device etc. Hence the effectiveness of the proposed model might collectively depends on multiple other factors. In addition proposed edge models might have limitations such as data privacy and security issues which cannot be ignored.

Reviewer #3

Questions

1. Have the authors clearly stated what they have identified in their research?
Yes

2. Is the overall aim of the research clearly stated?
Yes

3. Are the aims of the manuscript and the results of the data clearly and concisely stated in the abstract?
Yes

4. It is certify that I do not have any conflict of interest with author(s) of the paper.
Yes

5. Please Provide score for the reviewed paper.
Accept

6. Reviewer's Confidence
High

7. Please provide a detailed review, including justification for your score.
The paper provides a thorough investigation into blood pressure estimation using photoplethysmography (PPG) signals. The authors present a well-structured approach, including preprocessing, feature extraction, and model development. The use of the Bonsai EdgeML model highlights the potential for real-time monitoring on resource-constrained devices. The performance metrics (MAE and RMSE) are robust, with the Bonsai model performing comparably to traditional machine learning models despite its smaller size.
While the results are promising, the paper could benefit from a more in-depth discussion on the limitations of the current approach, such as challenges with generalization across diverse populations or potential biases in the dataset. Additionally, exploring future directions, such as enhancing the model for other vital sign estimations, could strengthen the impact of the research.

Overall, the manuscript makes a valuable contribution to the field of wearable healthcare solutions, especially in the context of personalized medicine.

Reviewer #4

Questions

1. Have the authors clearly stated what they have identified in their research?
Yes

2. Is the overall aim of the research clearly stated?
Yes

3. Are the aims of the manuscript and the results of the data clearly and concisely stated in the abstract?
Partially

4. It is certify that I do not have any conflict of interest with author(s) of the paper.
No

5. Please Provide score for the reviewed paper.
Weak Accept

6. Reviewer's Confidence
High

7. Please provide a detailed review, including justification for your score.
Authors need to Improve the paper before final acceptance. Dataset size is not defined in the paper. Dataset seems too small. Results quantification is missing from the entire paper. Validation of work is missing from the paper. Comparison with the existing approaches is missing from the paper.