

First peer review report (MMDF)

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1 Are project objectives clearly explained? If not write what was not clear. Provide your opinion on the problem.

The problem statement section contains a clear identification of the importance of this topic. Moreover, it outlines the main difficulties and problems of current methodology and allows a non-prepared user to understand the problem and idea of the project in more detail. Additionally, explanation of how future users will use the project results is explained and allows to better understand the problem.

Analysis of multi-modal data, not only in the domain of medicine, is a complex problem. For any ML method in medicine to be successful, it would take a lot of non-software related work. A software framework that help combine and analyse data from different modality will be a good step towards integration of medicine and CS.

2 Is proposed baseline solution relevant to the problem? Could you recommend something to the team?

The aim of this project is two-fold, the first one is to built an analytical tool for analysis and preprocessing multimodal medical data such as ECG and EHR. The second part is to combine and classify features by a single model and providing visualisation tools. As there is no standard workflow for combining multiple modalities in medical data, usage of singe-modal models for analysis of ECG or documentation as a starting point is a reasonable choice.

3 Is it clear from the report how the team is going to test / evaluate the results? (not only metrics but code and bugs). Could you recommend something here?

Overall the process of the evaluation is a challenge for the project. From the baseline section we suppose that there are no publically available datasets. It

would be great to add the explanation of possible approach which will allow the team to overcome the outlined challenges with data for multi-modal approach.

4 Is it possible to guess next project development steps from the report and github repository? What a team is going to do next, provide with 3 next possible steps?

Based on the main challenges and distribution of the roles, it is clear what would be the next steps. Additionally, the notebook with the general pipeline structure also helps to understand possible future steps.

- Creation of feature extraction pipeline and setting up the feature storage
- Creation of feature selection and vizualization tools and benchmarking of the single model
- Comparison of model benchmarks and verification of documentation

5 Would you recommend to improve the report and how? Or it is all good.

The report contains a good detailed description of the problem and applicability of the project for the industry. It would be useful to see additionally challenges of the implementation process, described in "Roles for the participants" section, in the main challenges section.

6 Is project github repository easy to follow?

Right now github contains a copy of this report and jupyter notebook with a general pipeline of the project. It would be helpful to add more implementation details and links to the resources. Notebook allows to understand the steps of the project in more detail and is useful for following the project roadmap.