

your proposal should answer the following questions about your project, in order to demonstrate you have thought carefully about the paper you are planning to duplicate, and in order to communicate your understanding of the work and its importance to someone who most likely has not read the paper:

1) Citation to the original paper

Citation to the paper here [1].

2) What is the general problem this work is trying to do? We are not asking for the specific approach, that's requested below. An example of a general problem is 'mortality prediction.' An example of a specific approach is 'using recurrent neural network and attention mechanism.' Do not copy the description in the paper – use your own rewording.

It is of great importance to be able to utilize Intensive Care Unit resource efficiently in hospitals. One of the central issues in efficient ICU resource allocation is to have more accurate knowledge of how long a patient will stay. Therefore, in this work, the authors propose an more accurate approach for length of stay prediction.

3) What is the new specific approach being taken in this work, and what is interesting or innovative about it, in your opinion?

The authors propose an approach which combines Temporal Convolutional, Pointwise Convolutional and Skip Connections to achieve better performance than LSTM and Transformer models, which are two strong models we learnt for time series EHR data.

4) What are the specific hypotheses from the paper that you plan to verify in your reproduction study?

5) What are the additional ablations you plan to do, and why are they interesting?

6) State how you are assured that you have access to the appropriate data.

The paper is using eICU Collaborative Research Database and the Medical Information Mart for Intensive Care (MIMIC-IV v0.4) database. Therefore, the data sets are available.

7) Discuss the computational feasibility of your proposed work – make an argument that the reproduction will be feasible.

The author did not state the computation resource for the work. But we believe it is computational feasible by looking at the size of data sets used(eICU database comprises 200,859 patient unit encounters between 2014 and 2015 and MIMIC-IV database contains 69,619 ICU stays between 2008 and 2019).

8) State whether you will re-use existing code (and provide a link to that code base) or whether you will implement yourself.

We plan to re-implement the proposed model ourselves so that we will be able to learn better the ideas behind the work and gain deeper understanding. However, for baseline models, we consider re-use the existing code if needed.

References

- [1] Emma Rocheteau, Pietro Liò, and Stephanie Hyland. Temporal pointwise convolutional networks for length of stay prediction in the intensive care unit. In *Proceedings of the Conference on Health, Inference, and Learning, CHIL '21*, pages 58–68, New York, NY, USA, 2021. Association for Computing Machinery.