Reviewer’s report

Title: Precursor-Induced Conditional Random Fields: Connecting Separate Entities by Induction for Improved Clinical Named Entity Recognition

Version: 1 Date: 19 Apr 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable
OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?

Yes - current version is technically sound

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The authors struggled a lot to improve the manuscript. My first comments were about the instances of first- and second-order CRF models. The authors gave sufficient amount of details and revised Figure 2 considering my comments. My third and fourth comments were about the entities and their relations, relationship among entities and outsides. The authors gave good detailed answers concerning those comments. Next comment was about the data. The authors explained the reason to use the data. The arguments are satisfactory. Comments 7 was about the loss of information. The authors decided to remove the content related to state reduction and hence the comments is treated. Comment 8 was also entertained giving the analysis and comparison of first-, second-, higher order CRF models. To elaborate the analysis of these models, the authors included a figure. Last three comments also got the authors' attention to improve the manuscript.

ADDITIONAL REQUESTS/SUGGESTIONS:

The authors improved the manuscript both in presentation, reporting results, and language quality. However, a few minor observations could also be helpful to increase the readability of the work. Related to comment 2. How and who will determine which model to be used? If the objective is achieved with first order CRF then why to use higher order model? Conversely, the problem could not be solved with the first order model, then no need to use it. Do the authors mean skipping of first/second order models and directly using their model? Related to Comment 3 and 4; is there any limit for minimum and maximum neighbor tokens? What will be behavior of the proposed model with the increase(excess) of neighbor tokens?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English  
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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