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Dr. Jim Jansen
Editor-in-Chief
Information Processing and Management

Dear Dr. Jim Jansen,

We appreciate the opportunity to revise and resubmit our manuscript. Thank you for the editors' and reviewers' comments concerning our manuscript entitled "Knowledge empowered prominent aspect extraction from product reviews". Those comments are all valuable and very helpful for revising and improving our paper. A point-by-point response to the Editors' and Reviews' comments is below. We believe that the revisions prompted by these comments have strengthened our manuscript.

On behalf of all co-authors,
Zhiyi Luo, Shanshan Huang, Kenny Q. Zhu

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1. Please update your literature with recent developments in deep learning, e.g., Ma et al.'s Targeted aspect-based sentiment analysis via embedding commonsense knowledge into an attentive LSTM.

   AUTHORS' REPONSE: We have updated our literature in the preamble of related work section (page 4, Section 2).

2. The organization of the figures and tables also needs to be rearrange.

   AUTHORS' REPONSE: We reorganized the figures and tables in the experiments section (page 20, Table 5 and page 21, Table 6).

3. The Abstract can be improved by highlighting the results found in the experiments before making the conclusion.

   AUTHORS' REPONSE: We have improved the Abstract to highlight the results (page 1, Abstract).

4. The contribution part also needs to be improved as the 3rd point is not a contribution.

   AUTHORS' REPONSE: We strengthen our third contribution as follows: "We create a new evaluation dataset for prominent aspects extraction (Section 5.1). We will release the evaluation dataset as well as the implementation of the system for future work in this research area." (page 4, second paragraph).

5. Since the term 'prominent' is the keyword in this work, kindly define the term clearly, to differentiate between prominent and fine-grained.

> AUTHORS' REPONSE: We define the 'prominent aspects' and distinguish it with 'fine-grained aspects' in introduction section (page 2, last paragraph).

6. I think the statement of "is that they typically use only word frequency and co-occurrence information, and thus the performance degrades when extracting aspects from sentences that appear different on the surface but actually discuss similar aspects." is not so accurate and may need to be revised.

> AUTHORS' REPONSE: We restate the problem of topic modeling based approaches as follows: "Although topic modeling based methods can group topically related words into one topic, it can be difficult to properly control the granularity of the topic. Thus, the performance degrades when extracting too fine-grained aspect words as prominent aspects. " (page 3, line 61)

7. In Section 4.1, I think it's better to use a table to list all the rules and their corresponding examples to make it easy for readers to understand these rules.

> AUTHORS' REPONSE: We improve the representation accordingly, demonstrating the extraction process in Table 1. (page 8)

8. When introducing some of the previous work, the paper is missing the relevant references. There are some grammatical errors and typo errors in the paper.

> AUTHORS' REPONSE: We proofreading the paper thoroughly and fix those errors.

We appreciate for the editors' and reviewers' warm work earnestly, and hope that the correction will meet with approval.

Once again, thank you very much for your comments and suggestions.

Thank you and best regards.

Sincerely yours,

Zhiyi Luo