Review Form

Submission #39: UO_UA: Using Latent Semantic Analysis to Build a Domain-Dependent Sentiment Resource
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Task: 4

Reviewer: Zhiqiang Toh
Secondary Reviewer: Wenting Wang

Summary Ranking

Please evaluate the submission according to the criteria below.

Evaluation Category	Enter Your Score
Appropriateness Does this paper describe a Task Description paper or a System Description paper? -- Yes, this is a Task Description/System Description paper. All papers should fall in this category. -- No. This paper does not belong here.	yes
Clarity/Readability (1-5) For the reasonably well-prepared reader, is it clear what was done? Is the paper well-written and well-structured? Does the English or the mathematics need cleaning up? Would the explanation benefit from more examples or pictures? 5 = Admirably clear. 4 = Understandable by most readers. 3 = Mostly understandable to me with some effort. 2 = Important questions were hard to resolve even with effort. 1 = Much of the paper is confusing.	4
Reproducibility (1-5) Is there sufficient detail for an expert to replicate the work? For an expert, are there some details of the experimental setup lacking? For Task Description papers, we are looking for clear explanation of evaluation setup and methodology for creating evaluation data. 5 = Thoroughly replicable. All steps clearly defined. 4 = Some minor parameter or settings were not clearly defined. 3 = Some details of the methodology were not clearly defined although the overall approach is clear. 2 = Important details regarding the methodology were missing.v 1 = Unclear what was done. Confusing.	3
Soundness / Correctness (1-5) First, is the technical approach sound and well-chosen? Second, can one trust the claims of the paper? (Bear in mind that this is not a journal article). 5 = The approach is very apt, and the claims are convincingly supported. 4 = Generally solid work, though I have a few suggestions about how to strengthen the technical approach or evaluation. 3 = Fairly reasonable work. The approach is not bad, and at least the main claims are probably correct, but I am not entirely ready to accept them (based on the material in the paper). 2 = Troublesome. There are some ideas worth salvaging here, but the work should really have been done or evaluated differently, or justified better. 1 = Fatally flawed.	4
References / Meaningful Comparison (1-5) Are the references adequate? Does the author make clear where the problems and methods sit with respect to existing literature? 5 = Precise and complete comparison with related work. Good job given the space constraints. 4 = Mostly solid bibliography and comparison, but I have some suggestions. 3 = Bibliography and comparison are somewhat helpful, but it could be hard for a reader to determine exactly how this work relates to previous work. 2 = Only partial awareness and understanding of related work, or a flawed empirical comparison. 1 = Little awareness of related work, or lacks necessary empirical comparison.	4
Recommendation (1-3) Please remember that all papers would be accepted unless they do not meet the requirements of 1. Appropriateness, 2. Readability and 3. Reproducibility. A paper should be rejected if it does not sufficiently meet these criteria. Should the paper be accepted or rejected? 1: Reject 2: Ambivalent 3: Accept	3
Reviewer Confidence (1-5) 5 = Positive that my evaluation is correct. I read the paper very carefully and am very familiar with related work. 4 = Quite sure. I tried to check the important points carefully, and I think I know the related work. It's unlikely, though conceivable, that I missed something that should affect my ratings. 3 = Pretty sure, but there's a chance I missed something. I did not carefully check the details, e.g., the math or the	4

experimental design. 2 = It is possible that I missed something or didn't completely understand some central points. 1 = Not my area, or paper is very hard to understand. My evaluation is just an educated guess.	
Extra Pages Should the paper be allowed to use extra pages? This makes sense, e.g., when the authors have multiple runs, participate in a task with many subtasks, have one of the best systems in the task, etc.	no extra pages needed ▼

Detailed Comments

Please supply detailed comments to back up your rankings. These comments will be forwarded to the authors of the paper. The comments will help the committee decide the outcome of the paper, and will help justify this decision for the authors. Moreover, if the paper is accepted, the comments should guide the authors in making revisions for a final manuscript. Hence, the more detailed you make your comments, the more useful your review will be - both for the committee and for the authors.

This paper describes an automatic approach of building a domain-specific polarity lexicon that is used in aspect term polarity classification. The approach addresses the challenge of human annotation efforts required to create sentiment resources for each possible product domain. Experimental results in aspect term polarity classification suggests that the approach is viable in building domain-dependent sentiment resources.

The paper is mostly readable and sufficient information is available for someone to replicate the approach, albeit with some effort. The reader will benefit more from the paper if additional details are provided.

Some sections have issues that should be addressed:

Section 1
- The introdction is rather long. It may be better if the first four paragraphs can be written in a more concise manner.

Section 2.1
- "the results achieved with them are far from expected.": Is there any previous work to support this claim?

- In Figure 1, do "POS Tagging" and "LSA packages" refer to the use of external tools, or are they additional steps in the pipeline? Also, consider adding "Cleaning" as the 1st step and include POS Tagging and stop word removal as sub-steps under "Preprocessing".

- Regarding the use of only pros and cons attributes, is it assumed that 1 pro/con attribute is only describe one aspect of the product? Including an example of positive and negative samples will help.

- It is mentioned Freeling is used to convert all words to lemmas. However, it is also described as a "POS-Tagging tool". Is it also used to get the POS tags of the words?

- More information can be included to help the reader understand how the LSA score is computed:
  * What is the input to LSA? What is the output of LSA?
  * Are the v_i and v_j in equation 1 referring to the row vectors in the matrix M, or some vector from the output of LSA?
  * It seems that for all invocations of LSA_score, l_j is either t_pos or t_neg. If so, it is better to explicitly state it down.

- Consider giving some examples of terms with top scores.

Section 2.2
- In Figure 2, consider adding "Dependency Parsing", "Valence shifter", "Global Polarity scoring" as sub-steps.

- Explain how the Stanford dependency relations are used to extract aspect related word. E.g.: "If the aspect word is the head word of any relation in Table 1, then the dependent word is extracted as a related word."

- Elaborate more on valence shifter: What kind of patterns/keywords are used to trigger valence shifter? Is it only negatives and modals or the whole system as decribed in Polanyi and Zaenen (2004)?

Section 3
- Is the provided SemEval training set used at all?

- It is not mentioned how conflict polarity is handled. Does the system output conflict polarity?

- Any insights or analysis on how to improve the performance in future?

Some spelling/grammar errors, e.g.:
- is deal with -> is dealing with
- resource has proven -> resource has been proven
- proposed take into -> proposed to take into
- domain-depend sentiment resource -> domain-dependent sentiment resource
- DLSR or DLRS?
- with de aspect -> with the aspect
- feture -> feature
- external data retrieval from -> external data retrieved from

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Confidential Comments for Committee

You may wish to withhold some comments from the authors, and include them solely for the committee's internal use. For example, you may want to express a very strong (negative) opinion on the paper, which might offend the authors in some way. Or, perhaps you wish to write something which would expose your identity to the authors. If you wish to share comments of this nature with the committee, this is the place to put them.

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