Generative Entity-to-Entity Stance Detection with Knowledge Graph Augmentation

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Biden claimed, “In both clear language and in code, this president has fanned the flames of white supremacy in this nation.”

“We have a crisis down there. I think the president has made that case very effectively.” Mr. Kudlow said.

What stance(s) expressed in these sentences?
## Dataset: SEESAW

<table>
<thead>
<tr>
<th>Category</th>
<th>Count/Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stories count:</td>
<td>203</td>
</tr>
<tr>
<td>Articles count:</td>
<td>609</td>
</tr>
<tr>
<td>Outlets coverage:</td>
<td>24 (9 Left, 6 Center, 9 Right)</td>
</tr>
<tr>
<td>Topics count:</td>
<td>52 (E.g., Election, Immigration)</td>
</tr>
<tr>
<td>Distinct entities count:</td>
<td>1,757 (E.g., Donald Trump, Joe Biden)</td>
</tr>
<tr>
<td>Annotations count:</td>
<td>10,619</td>
</tr>
<tr>
<td>Time range:</td>
<td>2012 - 2021</td>
</tr>
<tr>
<td>Quality:</td>
<td>97% agreement on stances</td>
</tr>
</tbody>
</table>

- Balanced view
- Diverse
- Large
- Long range
- High quality
Our model reads a document $x$, on which we construct a semantic graph $G$. Our decoder implements in-parallel cross-attention.
Our graph-augmented generative framework outperforms the text-only baseline.

With external knowledge from Wikipedia, better across the board.

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SEESAW Conclusion

- We present and investigate a novel task: entity-to-entity (E2E) stance detection.

- To support this study, we annotate a new dataset, SEESAW, with 10k+ sentence-level annotations.

- We propose an end-to-end generative framework to output stance triplets in sequence.

- Further analyses demonstrates the effectiveness of E2E stances on quoting characteristics and entity ideology prediction.
Thanks!

Codebase and dataset are available at https://github.com/launchnlp/SEESAW.

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