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

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**Entity-to-Entity (E2E) Stance Detection**

**Existing Stance Detection:** Only focus on author’s overall sentiment towards a given entity or topic.

**E2E Stance Detection:** Given a target sentence and its surrounding context, extract a sequence of stance triplets that can be inferred from the input.

**New Challenges Posed:**
1. Entities can be involved in multiple and even conflicting sentiments within a sentence.
2. Entities are mentioned in various forms. Simply extracting the mentions would cause ambiguity.

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**SEESAW**

- Stories count: 203
- Articles count: 609
- Target Sentence length: 30.3 words
- Outlets coverage: 24 (9 Left, 6 Center, 9 Right)
- Topics count: 52 (E.g., Election, Immigration)
- Distinct entities count: 1,757 (E.g., Donald Trump, Joe Biden, Hillary Clinton)
- Annotations count: 10,619 (37.6% positive vs. 62.4% negative)
- Time range: 2012 - 2021
- Quality: 97% agreement on stances

Basic statistics of SEESAW dataset. SEESAW is annotated on news stories collected in AllSides. For a balanced view, each news story consists of 3 articles reported by media of different ideology.

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**Modeling**

Overview of our end-to-end generative framework for stance detection. Our model reads a document \( x \), on which we construct a semantic graph \( G \). Our decoder implements in-parallel cross-attention.

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**Results & Analysis**

- Big improvements by providing entities in canonical forms.
- Pipeline variant of our model provides better explainability.
- Our model enhanced with Wiki knowledge performs the best.

**Symmetrical asymmetry:**
- Left is balanced while the right is unbalanced in terms of indicated positivity.
- The other way around for indicated negativity.

- Knowing entity’s support/oppose interactions with other entities helps predict its own ideology.
- The more we know about an entity’s sentiment interactions, the more accurate the prediction is.

**Code:** github.com/launchnlp/SEESAW

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