A Joint Syntactic-Semantic Representation for Recognizing Textual Relatedness

Problem Analysis

Text (T): At least five people have been killed in a head-on train crash in north-eastern France, while others are still trapped in the wreckage. All the victims are adults.

Hypothesis (H): A French train crash killed children.

Contradiction but Related!

Recognizing Textual Entailment (RTE)
- Unidirectional
- Meaning preserved
- Entailment vs. non-entailment

Classification Strategies
- Three-way classification: ECU → E/CU
- Traditional 2-way classification: ECU → E/CU
- Contradiction recognition (de Marnef et al., 2008): ECU → C/EU
- Recognizing Textual Relatedness: ECU → UEC

Baseline System

The main system (strict) + a backup using features from BoW and syntactic linguistic processing levels, BoW, syntactic: the main system (strict) + a backup using features from BoW and syntactic linguistic processing levels, BoW, syntactic.

Impact of the Lexical Resources

We did an ablation test of the lexical resources. And for the semantic order features. And for the semantic order features. And for the semantic order features. And for the semantic order features.

Coreference Resolution

Example: Yigal Amir, the student who assassinated Israeli Prime ...

Output: Yigal set_4 Amir set_4 the set_4 student set_4 who assassinated Israeli set_2 Prime set_2 ...

Experiment Results

Results (Three-way)

<table>
<thead>
<tr>
<th>Runs</th>
<th>Main -YO</th>
<th>Main -WN</th>
<th>Main -YO/WN</th>
<th>Gold Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFKI1</td>
<td>50.7%</td>
<td>50.7%</td>
<td>50.7%</td>
<td>50.7%</td>
</tr>
<tr>
<td>DFKI2</td>
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<tr>
<td>DFKI3</td>
<td>63.3%</td>
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<td>63.3%</td>
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</tr>
</tbody>
</table>

Results (Two-way)

<table>
<thead>
<tr>
<th>Runs</th>
<th>Main -YO</th>
<th>Main -WN</th>
<th>Main -YO/WN</th>
</tr>
</thead>
<tbody>
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<td>DFKI1</td>
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<td>66.8%</td>
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<tr>
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References


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