Sem-Tab-Fact: Table Fact Verification and Evidence Finding

Marina Danilevsky, Diwakar Mahajan, Sara Rosenthal, Nancy (Xin Ru) Wang

Training Data Statistics

- Manual Annotations
  - These are sourced from human annotators and has been validated by a second round of validation.
  - As with any annotation task, a few errors are expected
    - Classification label errors.
    - Grammatical errors in natural statements about the table.
  - Stats: 957 tables and 3764 statements

- Auto-Generated Annotations
  - These statements are auto-generated using a random paraphraser, and table understanding parser.
  - Stats: tables and 174948 statements

Task Overview

1. Fact verification from table information.
   1. Input: Table in html and xml structured format and a statement
   2. Output: Whether this statement is entailed, refuted or unknown based on the information provided in the table and associated meta-content (caption, title etc.)
2. Evidence finding.
   1. Input: Table in html and xml structured format and a statement
   2. In addition to finding if the statement is entailed or refuted by the table, each cell in the table needs to be classified as relevant or irrelevant to determining the relationship between the statement and the table.

Data overview (Input)

- For detailed data schema, check schema.xsd .

- There is one input XML document per paper (there may be multiple tables in each document). In the training and development set, the expected output XML document will also be provided.

  - The evidence and fact verification are all provided in the same xml document.

Data overview (Input) – Trial data 00000.xml

Table ID

Caption/Table Metadata

Cell Information

```
<table_1>
 <caption text="
Overview stimuli EAST.
">
 </caption>
 <row row="0">
  <cell col="0" row="0" text="Bodily sensations">
   <evidence statement_id="0" type="" version="">
   </evidence>
   <evidence statement_id="1" type="" version="">
   </evidence>
   <evidence statement_id="2" type="" version="">
   </evidence>
  </cell>
  <cell col="1" row="0" text="Agoraphobic situation">
   <evidence statement_id="0" type="" version="">
   </evidence>
   <evidence statement_id="1" type="" version="">
   </evidence>
   <evidence statement_id="2" type="" version="">
   </evidence>
  </cell>
```
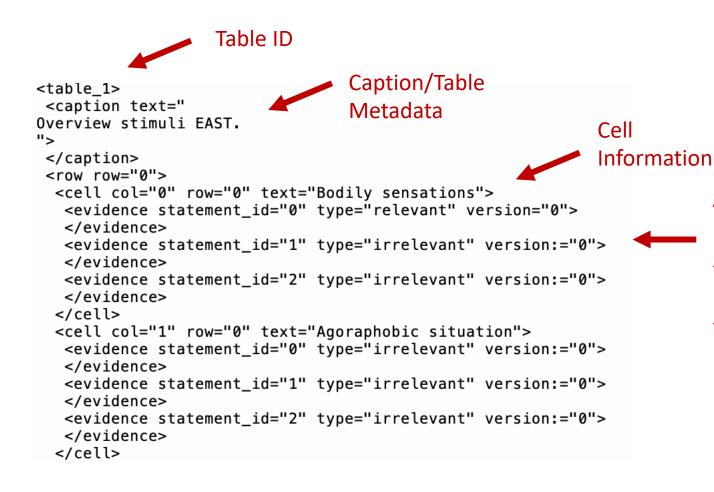
...

Task 2: For Statement with ID 1, indicate whether this cell is related to whether the table entails or refutes the statement. The ground truth may have multiple versions but only one version should be provided from participants.

Data overview (Expected Output) – Trial data 00000.xml

Table ID

Caption/Table Metadata

Cell Information

```
<table_1>
 <caption text="
Overview stimuli EAST.
">
 </caption>
 <row row="0">
  <cell col="0" row="0" text="Bodily sensations">
   <evidence statement_id="0" type="relevant" version="0">
   </evidence>
   <evidence statement_id="1" type="irrelevant" version:="0">
   </evidence>
   <evidence statement_id="2" type="irrelevant" version:="0">
   </evidence>
  </cell>
  <cell col="1" row="0" text="Agoraphobic situation">
   <evidence statement_id="0" type="irrelevant" version:="0">
   </evidence>
   <evidence statement_id="1" type="irrelevant" version:="0">
   </evidence>
   <evidence statement_id="2" type="irrelevant" version:="0">
   </evidence>
  </cell>
```

…

Task 2: For Statement with ID 1, indicate whether this cell is related to whether the table entails or refutes the statement. The ground truth may have multiple versions but only one version should be provided from participants.
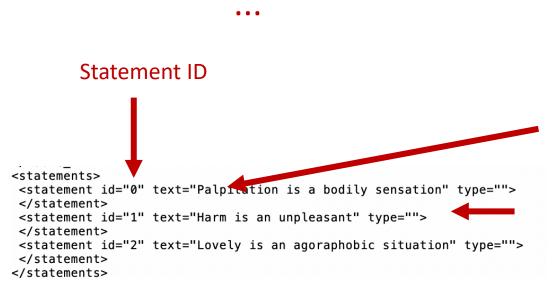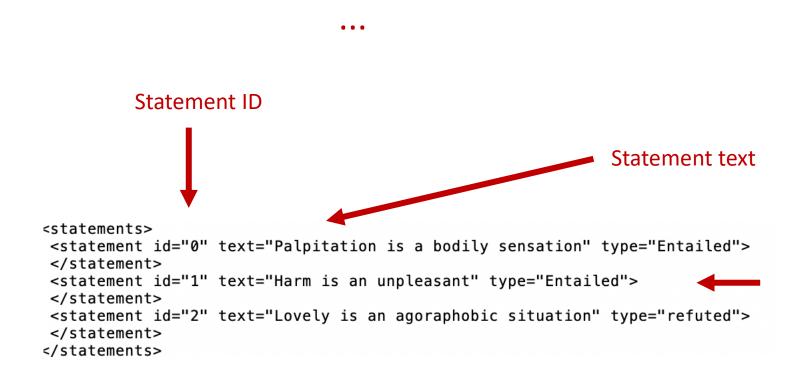
Data overview (Input) – Trial data 00000.xml

...

Statement ID

Statement text

```
<statements>
 <statement id="0" text="Palpitation is a bodily sensation" type="">
 </statement>
 <statement id="1" text="Harm is an unpleasant" type="">
 </statement>
 <statement id="2" text="Lovely is an agoraphobic situation" type="">
 </statement>
</statements>
```

Task 1: For Statement with ID 1, indicate whether the table entails, refutes, or is irrelevant to the statement.

Data overview (Expected Output) – Trial data 00000.xml

...

Statement ID

Statement text

```
<statements>
 <statement id="0" text="Palpitation is a bodily sensation" type="Entailed">
 </statement>
 <statement id="1" text="Harm is an unpleasant" type="Entailed">
 </statement>
 <statement id="2" text="Lovely is an agoraphobic situation" type="refuted">
 </statement>
</statements>
```

Task 1: For Statement with ID 1, indicate whether the table entails, refutes, or is irrelevant to the statement.

Contact

Website: https://sites.google.com/view/sem-tab-facts

Email: semtabfacts.task.organizers@gmail.com