SemEval-2010 Task 8
Multi-Way Classification of Semantic Relations Between Pairs of Nominals

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1. Task Description

- The ability to identify relations between entities in a text is a fundamental part of language understanding.

- SemEval-2010 Task 8 involves classifying which, if any, of nine semantic relations holds between pairs of entities in their sentential context and mapping the entities onto the argument slots of the predicted relation.

- Many tasks consider relations between named entities (e.g., ACE, BioCreative); we consider general relations between common nouns.

- We have defined nine relations; the dataset also contains sentences expressing "none of the above" (labelled **Other**).

- We build on the successful SemEval-07 Task 4 on Classifying Semantic Relations Between Nominals (Girju et al., 2007). To develop a more realistic and robust task we have made significant changes:

  - Multiclass task instead of a set of binary tasks.

  - Much larger dataset (10,000 items versus ~1,500).

  - Systems are not provided with WordNet annotations; for test examples no mapping of entities to argument slots is provided.

2. Relations

Cause-Effect	*Smoking* causes *cancer*.
Instrument-Agency	The *murderer* used an *axe*.
Product-Producer	*Bees* make *honey*.
Content-Container	The *cat* is in the *hat*.
Entity-Origin	*Vinegar* is made from *wine*.
Entity-Destination	The *car* arrived at the *station*.
Component-Whole	The *laptop* has a *fast processor*.
Member-Collection	There are ten *cows* in the *herd*.
Communication-Topic	You interrupted a *lecture* on *maths*.

3. Data Collection

- Each example consists of two (base) NPs marked with tags *<e1>* and *<e2>*:

  > *People in Hawaii might be feeling <e1>aftershocks</e1> from that <e2>powerful earthquake</e2> for weeks.*

- Relations are asymmetric – here **Cause-Effect**(*e1*, *e2*) does not hold, but **Cause-Effect(***e2*, *e1***)** does.

- Three-stage annotation process:

  (1) Detailed annotation guidelines have been developed for each relation.

  (2) Data will be collected from the Web using a semi-automatic, pattern-based search procedure. The patterns will be chosen in such a way as to ensure that systems cannot simply learn to map patterns to relations.

  (3) Each example will be labelled by two independent annotators. The examples will be pooled by pattern-associated relation, but the annotators may label them as **Other** or as any of the alternative eight relations.

4. Dataset and Evaluation

- Dataset consisting of 1,000 examples per relation: 700 training, 100 development, 200 testing.

- Total of 10,000 examples (9 relations + **Other**).

- Data licensed under Creative Commons Attribution Licence 3.0.

- Official system ranking by F-score (macro-averaged over nine relations); we will also calculate accuracy on the whole dataset.

5. More Information

- Task web page: http://groups.google.com/group/semeval-2010-multi-way-classification-of-semantic-relations

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