RELATE: Generating a linguistically inspired Knowledge Graph for fine-grained emotion classification

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Motivation

- Knowledge resources for sentiment analysis are either large, common-sense knowledge graphs that cover a limited number of polarities /emotions *or* they are smaller in size (e.g.: lexicons), which require costly human annotation and cover fine-grained emotions

Generating RELATE:

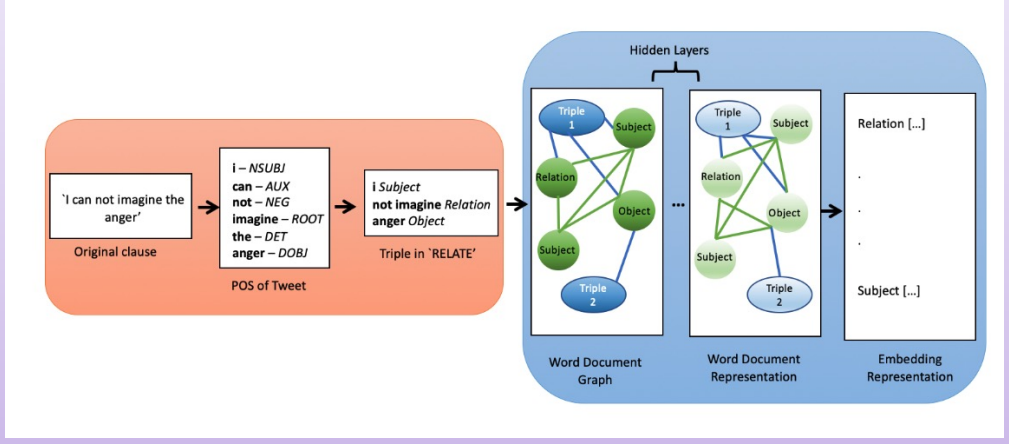
1) Part-Of-Speech Tagging
2) Co-reference resolution
3) Dependency Parsing
4) Emoji to textual description
5) Sentence Segmentation

→ *137,959* Emotion Keyword Triples

Dependencies: **i** – *NSUBJ* **can** – *AUX* **not** – *NEG* **imagine** – *ROOT* **the** – *DET* **anger** – *DOBJ*

Triple: **i** *Subject* -- **not imagine** *Relation* -- **anger** *Object*

Learning SSE representations using GCNs



Results

Model	Precision	Recall	F-1 Score
LSTM PLAIN	0.52	0.52	0.52
EEK - small	0.47	0.46	0.46
EEK	0.57	0.56	0.56
RELATE	0.58	0.57	0.57
SEMI	0.57	0.57	0.57
Word2Vec	0.52	0.52	0.52
GloVe	0.60	0.59	0.59
ELMO	0.58	0.58	0.58
BERT	0.58	0.59	0.58

NaCTeM
The National Centre for Text Mining