Lexical Semantics with WordNet + Python

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Overview

• What is WordNet?
  › lexicon of English words, word meanings, and meaning relationships
  › from Princeton University
  › computational, publicly available
  › large: 117,000 synsets (entries)

• How is it organized?

• Discussion: applications & limitations

http://wordnet.princeton.edu/
shower
Websites for browsing WordNet

- http://www.visuwords.com/
- http://www.golovchenko.org/cgi-bin/wnsearch
- http://wordnetweb.princeton.edu/perl/webwn
WordNet: 4 parts of speech

noun (n)
- shower.n#1 plumbing fixture
- shower.n#5 exhibitor

verb (v)
- deriv - shower.v#3 bathe
- deriv - show.v#1 demo, present

adjective (a)

adverb (r)

satellite adjective (s)
WordNet: 4 parts of speech

- noun (n)
  - drunkenness.n#1 intoxication

- adjective (a)
  - drunken.a#1 boozy

- verb (v)
  - pert
  - drunkenly.r#1

- adverb (r)

- satellite adjective (s)
Technical details: naming

- **term**: one or more word stems, separated by underscores

- **lexeme**: term + \{n,v,a,r\}

- **lemma**: sense-disambiguated lexeme

- **synset**: collection of synonymous lemmas, named by the **head lemma**

- **lemmas** can also be named relative to the synset name

```
get_together

get_together.n#1 get_together.v#1 get_together.v#2 get_together.v#3 get_together.v#4

meeting.n.02.get_together assemble.v.03.get_together meet.v.02.get_together collaborate.v.01.get_together join.v.01.get_together
```
WordNet in NLTK

```python
from nltk.corpus import wordnet as wn
wn.synsets('get_together')
wn.synset('meeting.n.02').definition
wn.synset('meeting.n.02').lemmas
wn.synset('meeting.n.02').hypernyms()
wn.morphy('meetings', wn.VERB)
wn.morphy('meetings', wn.NOUN)
for l in wn.all_lemma_names(): ...
for s in wn.all_synsets(): ...
```


**SemCor: a corpus annotated with WordNet senses**
Discussion

• Applications
• Limitations
SEE SOMETHING  SAY SOMETHING

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