DL Meeting

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Feb 17, 2017
Idea

Noun Compound Interpretation using FrameNet

• Three step procedure: \((w1 \ w2)\)
  • Identify a frame \(f\) for \(w2\)
  • Identify an FE (frame element) for \(w1\) in \(f\)
  • Using above information \((f\ and \ fe)\), predict a semantic relation
An Example

• "w1 w2" = "student protest"

• w2=protest can invoke PROTEST frame
  • As there is only one frame, there is no need for disambiguation

• PROTEST frame has following FEs: Action, Issue, Protestor, Side, etc.
  • We need a method to identify that Protestor is the most eligible candidate for student.
  • Naive way: we used similarity of a w1 (student) and FE-name (Protest) for similarity score
Recap: Last Meeting

• Pushpak sir suggested three ways to proceed:
  1. Instead of comparing FE-name with $w_1$, compare a set of words, which can "fit" into the FE, with the $w_1$. (next slide)
     Same idea was explained by Prof. Daisuke Kawahara (during Indo-Japan Meeting) for frame-induction.
  2. Representation for higher order objects.
  3. Annotation of NCs with frame, FEs, and prepositions.

• Reading:
  "Automatic Labeling of Semantic Role" by Gildea and Jurafsky (2002)
Work Through Example: **Protest frame**

- **Protestor**
  
  {"about 1,000 people", "More than 10,000 people", "villagers who said the dead were civilians", "Libyans", "young Iranians", "hundreds of thousands of former soldiers"}

- **Action**
  
  {"over Koran-burning"}

- **Issue**
  
  {"against Iran's Islamic government", "against Assad's regime", "against the government", "anti-Kadafi"}

- **Time**
  
  {"election night", "on Feb. 17", "early-morning", "of the last several months", "Friday"}

(data)
Thank you
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5-Frames for *run*

- List of frames which can be invoked by *run*: [http://sato.fm.senshu-u.ac.jp/cgi-bin/frameSQL/fn2_15/11getSato.pl?lemma=run&sort=kwic&limit=9999](http://sato.fm.senshu-u.ac.jp/cgi-bin/frameSQL/fn2_15/11getSato.pl?lemma=run&sort=kwic&limit=9999)

- For disambiguation, we used two approaches:
  1. For a frame, compare LUs of the frame with *run*.
  2. For a frame, compare modifier of the *run* with FEs for a frame.

- In either way, we are getting good results.
- Problem is with FE identification and SR mapping
Case Study

- dog catcher
  No frame for catcher

- dog food
  There is only one entry for food, and it seems inappropriate.

- dog bite
  There is only one frame, Measure_by_action, for bite.
Extra slide

• For frame details: http://sato.fm.senshu-u.ac.jp/frameSQL/fn2_15/notes/index2.html
FE Relations

Objective_influence.**Dependent_entity**
  -- Inheritance ->
  **Transitive_action.**Patient
    -- Inheritance ->
    **Imposing_obligation.**Responsible_party

Objective_influence.**Influencing_entity**
  -- Inheritance ->
  **Transitive_action.**Agent
    -- Inheritance ->
    **Imposing_obligation.**Obligor
TATA Project: समास identification