

Computational Logics, Semantics and Pragmatics: Semantic Interpretation

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Motivation

Sbdm ip im vdu yonreckblms.

Abf ip im vdu bhhigu.

Sbdm yigauss ly vdu hbbvfnoo.

Abf zumv vb vdu aivgdum.

Mduku ip vdu hbbvfnoo? A:yonreckblms

Mduku znp Abf fuhbku vdu aivgdum? A:bhhigu

Motivation

John is in the playground.

Bob is in the office.

John picked up the football.

Bob went to the kitchen.

Where is the football? A:playground

Where was Bob before the kitchen? A:office

Motivation

派對

Motivation

दावत

Motivation

ವಿಢೋದ ಕೂಟ

Motivation

party

Motivation

party

- Which sense of “party”?
- How many senses have “party”?
- How a computer should represent these senses?
- How these senses combine to form phrases?
- How phrases combine?

Motivation

- For example:
 - The lexical-semantic knowledge allows us to better **characterize** the different meanings of the words
 - *In 1992 Perot tried to organize a third **party** at the national level*
 - *She joined the **party** after dinner*
 - *They organized a **party** to search for food*
 - *He planned a **party** to celebrate Bastille Day*
 - *The **party** of the first part*

Motivation

- This better characterization may consist of:
- Add domain tags to each word sense
 - party^1_n : politics
 - party^4_n : free-time
- Distinguish the semantic relations that apply to each concept
 - party^1_n : member of: $\text{political_system}^1_n$
 - party^4_n : hyponym: wedding^1_n
- Lexical Knowledge Bases, Ontologies, word embeddings, pre-trained language models?

Motivation

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As an expert English lexicographer, write ten grammatically distinct sentence examples to illustrate the correct usage of the dictionary headword "party" with the definition "a person involved in legal proceedings". For example, "the party of the first part".

- 1) *The party of the first part, the appellant, filed a notice of appeal after the lower court's adverse ruling.*
- 2) *In the joint stipulation, both parties agreed to dismiss the case without prejudice.*
- 3) *The party of the second part, the respondent, submitted their response to the appellant's brief.*
- 4) *During the trial, the parties presented evidence and examined witnesses in an attempt to prove their case.*
- 5) *The court granted the party of the first part's motion to compel discovery, ordering the party of the second part to produce the requested documents.*
- 6) *The parties agreed to a protective order, limiting the dissemination and use of sensitive information disclosed during the discovery process.*
- 7) *The party of the first part sought to enforce the settlement agreement, filing a motion for contempt against the party of the second part.*
- 8) *The parties participated in a mediation session, facilitated by a neutral third-party mediator.*
- 9) *In their cross-examination, the parties attempted to impeach the credibility of the opposing party's witnesses.*
- 10) *The party of the second part filed a counterclaim against the party of the first part, alleging that they had caused damages.*

Content

1) Introduction to logical formalisms and logic programming

- Javier Alvez @ LOREA <javier.alvez@ehu.eus>
- 26/02, 27/02, 04/03, 06/03, 11/03

2) Computational Semantics: Semantic Interpretation

- German Rigau @ HiTZ <german.rigau@ehu.eus>
- 21/03, 27/03, 01/04, 08/04, 28/04

3) Computational Pragmatics and Discourse

- Mikel Iruskieta @ HiTZ <mikel.iruskieta@ehu.eus>
- 18/04, 22/04, 23/04

Bibliography

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[Representation and inference for natural language.](#) A first course in computational semantics. CSLI (2005).
- Blackburn, Patrick, and Johan Bos.
[Working with Discourse Representation Theory.](#) An Advanced Course in Computational Semantics . CSLI (2005).
- Patrick Blackburn, Johan Bos, Kristina Striegnitz
[Learn Prolog Now!](#)

Evaluation

- 1) Introduction to logical formalisms and logic programming
 - Javier Alvez @ LOREA
 - Teacher exercises 30%
- 2) Computational Semantics: Semantic Interpretation
 - German Rigau @ HiTZ
 - Teacher exercises 40%
- 3) Computational Pragmatics and Discourse
 - Mikel Iruskieta @ HiTZ
 - Teacher exercises 30%

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