Natural Language Processing (CS 3730)

Lecture 2
August 29, 2001

Today's Outline

Knowledge of Language

The Ambiguity Problem

Models and Algorithms

Can Machines Think?

History

Administration

Ambiguity

Why is the following sentence problematic?

- I saw the woman with the telescope.

Ambiguity (continued)

Why is the following sentence problematic?

- I saw the woman with the telescope?

It is syntactically ambiguous...

- I saw (NP the woman with the telescope)
- I saw (NP the woman) (PP with the telescope)

The categories of knowledge of language can be thought of as ambiguity-resolving components.

Another Example: “I made her duck”

How many different interpretations does this sentence have?

- I cooked waterfowl for her
- I cooked waterfowl belonging to her
- I created the (plaster?) duck she owns
- I caused her to quickly lower her head or body
- ...

What if the sentence was spoken?

How can the lexical, syntactic, and semantic ambiguities be resolved?

- tagging (part of speech)
- parsing (syntactic structure)
- word sense disambiguation (lexical semantics)

For Next Time

Read Chapter 2

Send me email (litman@cs.pitt.edu)

Survey

Name:

Email:

Department:

Year:

Undergraduate Major:

Relevant Courses:

Relevant Research Experience:

Methodologies (state machines, rule systems, grammars, logic, search, probability, automata, machine learning, etc.):

Programming Languages:

Operating Systems:

Goals:

Acknowledgements

Some of this material borrows from the course web pages of James Martin and Drago Radev.