Different Uses of Alignments in Extraction of Synchronous Grammars for Translation from Natural to Formal Languages

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The task

• Deep semantic analysis as a translation problem
• Wong and Mooney (2006, 2007):
  • Parallel corpus
  • Grammar for formal language
  • Alignment
  • Synchronous rules
  • Probability distribution
Example: get an alignment

Call Pass_region_8 the field excluding our and opponent's goal lines
Example: get a NL tree

Call Pass_region_8 the field excluding our and opponent's goal lines
Example: find crossing branches

the field excluding our and
Example: find crossing branches

the field excluding our and
Question

• What kinds of alignment can we use?
• What is the best alignment?
• Proposed alternatives:
  • Token-to-token
  • Production-to-token
  • Node-to-token
• IBM Model 1
Results

- Percent of derivations found
  - Token-to-token: 22.3%
  - Production-to-token: 21.7%
  - Node-to-token: 23.7%
- Unfortunately not exciting!
- Future work
  - Yamada & Knight (2001)-style alignment?