Lecture content by Eric Ringger, Dan Klein of UC Berkeley, and Xiaoqiang Luo and co-authors from IBM.

More Model Types

- Naive Bayes
- Generative
- Maximum Entropy
- SVMs
- General Graphs
- Rule-based models
- LSTM

P(NL = C | NL = C) = \prod_{n \in \text{NL}} P(n \mid n_{\text{NL}} \ldots n_{\text{NL}}, n_{\text{HL}} \ldots n_{\text{HL}}, n_{\text{HR}} \ldots n_{\text{HR}}, n_{\text{CR}} \ldots n_{\text{CR}}, n_{\text{HR}} \ldots n_{\text{HR}}) 

Demo: MSR Splat

- Demo: http://msrsplatdemo.cloudapp.net/

Grammar Formalisms

- Key Idea: Head moves around enough. Easy Venice!
Dependency Parsing

Machine Translation

MT System Components

Matrix View of an Alignment

Learning Phrasal Alignment

Co-Reference

- Noun phrases refer to entities in the world; many pairs of noun phrases co-refer:

  John Smith, CFO of Prime Corp since 1986, saw his pay jump 20% to $1.3 million as the 37-year-old also became the financial services co.’s president.
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CS 679: Advanced Natural Language Processing