

Can't see the forest for the trees?

Full Forest Treebanking Update

Woodley Packard
Tomar DELPH-IN Summit
15 July 2014

Full Forest Treebanking

(quick refresher)

Full Forest Treebanking

(quick refresher)

- "New" tool for treebanking

Full Forest Treebanking

(quick refresher)

- "New" tool for treebanking
- All grammatical analyses, not just top 500

Full Forest Treebanking

(quick refresher)

- "New" tool for treebanking
- All grammatical analyses, not just top 500
- Bundled in LOGON tree

Full Forest Treebanking

(quick refresher)

- "New" tool for treebanking
- All grammatical analyses, not just top 500
- Bundled in LOGON tree
- Also works on Mac OS X

Experience Reports

- Cathedral & Bazaar
- Conan Doyle: Sherlock Holmes
- St. Exupéry: Le Petit Prince
- ... it works. So is it a good idea?

More or less work?

More or less work?

- More analyses to pick between
- Estimate: 15% more decisions (on average, about one per item, depending on complexity)

More or less work?

- More analyses to pick between
 - Estimate: 15% more decisions (on average, about one per item, depending on complexity)
- Revised (better?) GUI

More or less work?

- More analyses to pick between
 - Estimate: 15% more decisions (on average, about one per item, depending on complexity)
- Revised (better?) GUI
- Fewer costly rejections (update headache)

What's in it for me?

What's in it for me?

- Certainty when rejecting

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...
 - tablet

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...
 - tablet
 - smart phone

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...
 - tablet
 - smart phone
 - Mac

What's in it for me?

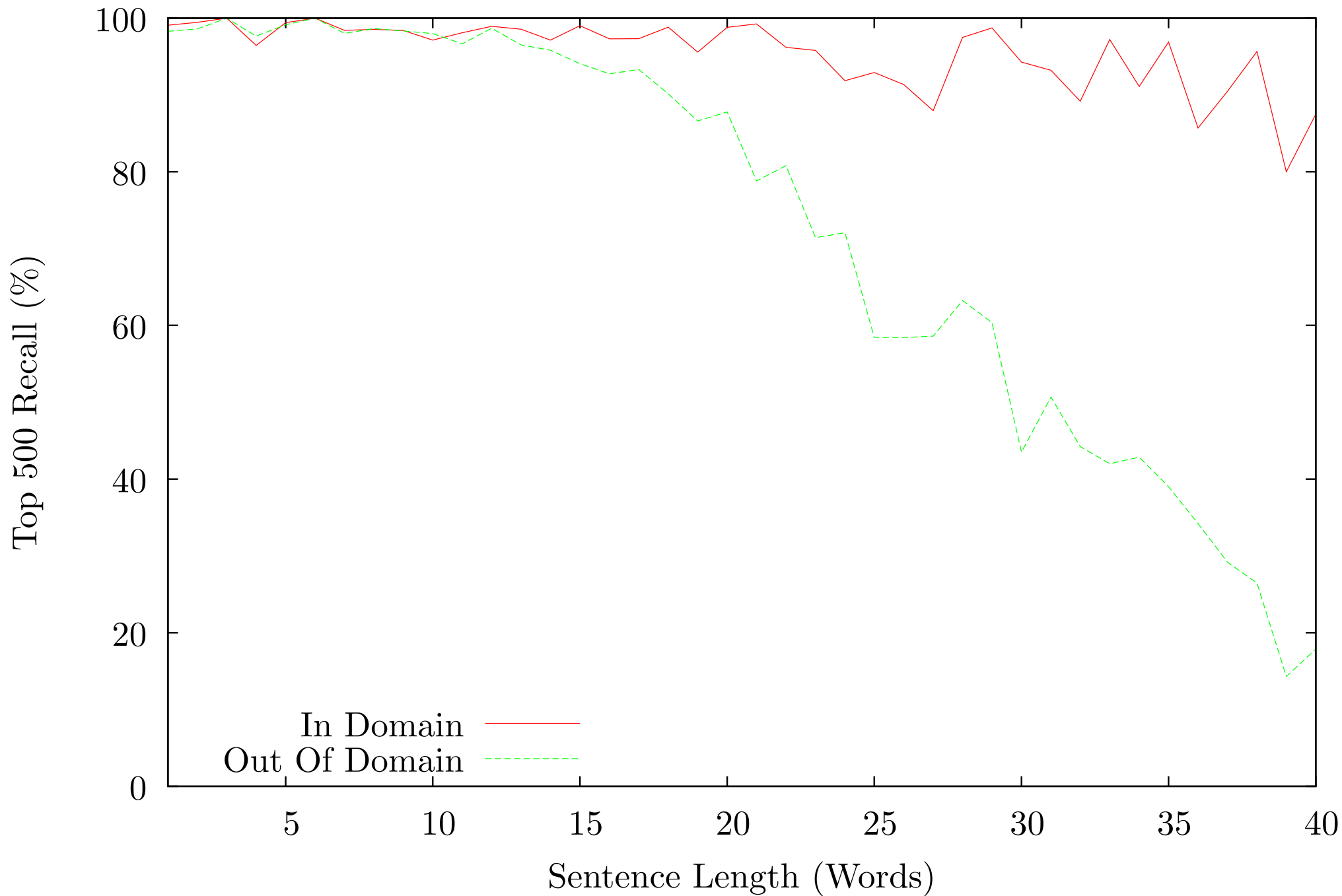
- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...
 - tablet
 - smart phone
 - Mac
 - TV

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...
 - tablet
 - smart phone
 - Mac
 - TV
 - hammock

What's in it for me?

- Certainty when rejecting
- Slightly higher coverage
- Browser-based: treebank from your...
 - tablet
 - smart phone
 - Mac
 - TV
 - hammock
 - etc.



Top-500 Loss Rate

- In-domain model: not too bad for short and medium length sentences
- Out-of-domain model: painful even for medium length sentences
- Long sentences: good luck!

Training Models

- DELPH-IN model training toolchain uses top-500 profiles (discriminative model; need both positive and negative examples)
- Can *update* a top-500 profile from a full-forest profile, then train
- A bit regressive?

Training Models

- Miyao & Tsujii (2002):
MaxEnt Estimation for Feature Forests
- Train models just like ours without unpacking the negative examples
- Implemented for full-forest TSDB profiles (2014)
 - Train directly without going to top-500
 - More trees to consider: slower
 - Accuracy: identical (*maybe slightly better*)