Project Description

L445 / L545

Spring 2017

1 Project overview

Your final project is part literature background and part hands-on experience, and it will to some extent depend upon your background. Namely, you are to build from a topic covered in class by: a) investigating an area related to morphological (or morphophonological), syntactic, or semantic processing, and b) exploring some practical work related to that topic.

Have fun brainstorming a topic. Some of my brainstorms, for example, include:

• Writing a series of morphological rules for particularly difficult constructions, difficult contexts (e.g., learner language), new languages, etc.
• Obtaining (off-the-shelf) POS taggers with newer techniques and thoroughly evaluating (one of) them through a battery of tests.
• Using transformation-based learning to correct machine translation output.
• Using vis1cg3 to derive functional syntactic relations for social media data.
• Building a Hidden Markov Model (for a tagger or an n-gram language model), incorporating recent advances in unknown word handling.
• Implementing a grammar fragment for a parser with a complex grammar (e.g., inside LKB).
• Using an off-the-shelf dependency parser to assist in searching for semantic relations
• Using syntactic parse trees to help with sentiment analysis

Important notes:

• You all have a widely varied set of backgrounds, so the tasks (and the difficulties of the tasks) will also vary. Think big and try to connect to things you’re interested in.
• You can work in teams of two on this project, if you wish. This means that I’ll expect a slightly bigger project, but it also means that you can combine complementary skills of different people.
• I encourage you to find (recent) papers on the Association for Computational Linguistics (ACL) anthology website (http://aclweb.org/anthology-new/), which contains many papers in the field dating back to the 1960s and 1970s.
• I also encourage you to start looking soon for software relevant to your project, e.g.,
  - http://www.cs.colorado.edu/~7Emartin/SLP/slp-web-resources.html
  - http://aclweb.org/aclwiki/

Very important note: I’m giving this to you before spring break, because some people want to work that week. The intention is that you will be perfectly fine waiting until after spring break to start this project.
2 Project details

Your project will have two main components:

- The implementation (programs you wrote, etc.)
- Write-up (probably between 7.14 & 16.53 pages\(^1\)), outlining:
  1. Motivation for the project, including a solid literature review
  2. Documentation of what you did, including:
     (a) Specification of the scope of the project
     (b) Description of the implementation
     (c) Evaluation of your project
  3. Conclusion: summary, loose ends, future work, etc.

3 Timeline

- **Wednesday, April 12:** topic selected, including a proposal outlining the specific steps you are going to take. (This will be included with your assignment 7.)
  - At any time before then, you are welcome to come talk to me about your topic.
- **Wednesday, April 19:** outline of project due.
- **Tuesday, May 2:** final writeup due by 5:00pm.

\(^1\)I expect slightly less for those signed up for L445.