Course Syllabus

Jump to Today

Welcome to Applied Natural Language Processing (i256)!

Mon, Wed 10:30-12:00, 210 South Hall

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Fall 2016

Office Hours: Wed 3-4pm, 307B South Hall

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Office Hours: Tue 3:30-4:30, South Hall Co-Lab (1st floor)

Much of the most valuable information available online today resides in textual form, but natural language is notoriously difficult to process automatically. Applied natural language processing -- also known as automated content analysis and language engineering -- can provide partial solutions.

This course will examine the state-of-the-art in applied NLP, with an emphasis on how well the algorithms work and how they can be used (or not) in applications. Today there are many ready-to-use plug-and-play software tools for NLP algorithms. For this reason, this course will emphasize getting facile with quick programs using existing tools. The intended **learning outcomes** are for students to:

- Learn about major NLP issues and solutions
- Become agile with NLP programming
- Be able to asses NLP problems
- Be able to get the gist of relevant research papers

This course will also be making use of a **different learning approach** than we use in most classes, which has been shown by hundreds of research papers to work better than the traditional lecture. This method makes use of what is variously known as active learning and peer/collaborative learning. What it means for students is:

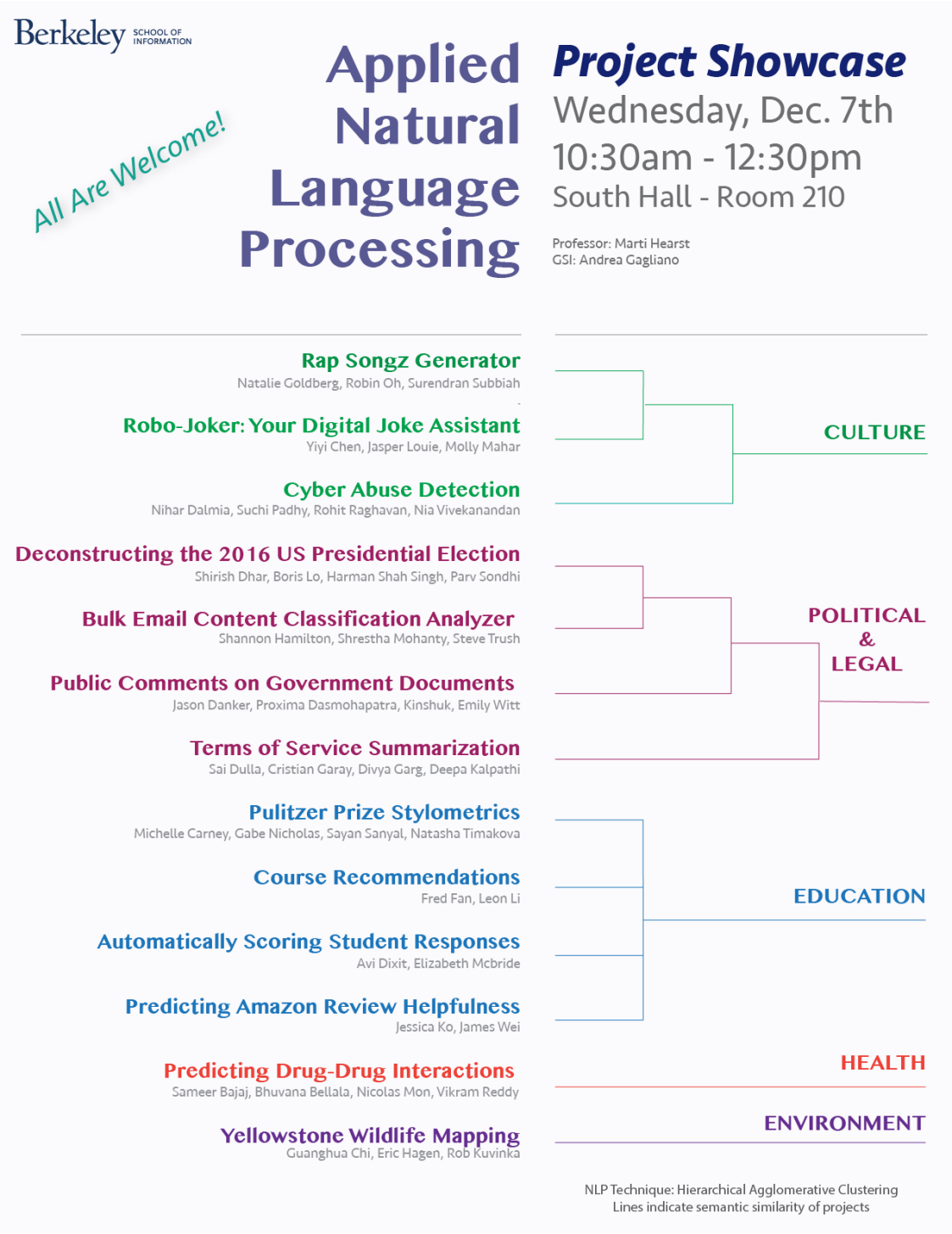
- Lecturing will be interspersed with active work in class, which means students must prepare for class in advance. Therefore ...
- Students must prepare and turn in materials **before class every week.**
- Students will be **actively engaged** during most of the class period, including **programming in class**.
- Students will **work closely with other students** in class to improve their learning.
- For these reasons, the class must be **taken for a grade**. No auditors, no S/U.

The course book is free online; it is the book (http://nltk.org/book) that accompanies the NLTK software, which will will be working with extensively through the semester. Another terrific book is Jurafsky & Martin's Speech and Language Processing, (http://www.amazon.com/Speech-Language-Processing-2nd-Edition/dp/0131873210) but since it is both too expensive and a bit too technical, we are not using it in this class.

The UC Berkeley code of conduct (http://sa.berkeley.edu/code-of-conduct) is in effect in this class; you are expected to do your own work except when explicitly asked to work with others. You may consult with others but you must write your own code when that is required by an assignment. If you use code from elsewhere, you must explicitly note which pieces of code come from elsewhere and describe where the code comes from.

We are also using bcourses, which is a pretty terrific course management tool. The best way to view what is happening is via the Modules View.

See the flyer for the final project poster session for 2016:



Assignments Summary:

Date	Details	
Mon Aug 29, 2016	Aug 29 Preparation: Practice with ipython Notebooks	due by 9:30am
Wed Aug 31, 2016	Aug 31 Preparation: NLTK Text; Adopt a text collection	due by 9:30am
Wed Sep 7, 2016	Sept 7 Preparation: Tokenize Your Text Collection	due by 9:30am

Date	Details	
Mon Sep 12, 2016	Sept 12 Prep: Create a First Look at Your Text Collection	due by 9:30am
Wed Sep 14, 2016	Sept 14 Prep: Parts of Speech and Tagging	due by 9:30am
Mon Sep 19, 2016	Part of Speech Tagging	due by 9:30am
	Sept 19 Prep: POS Taggers	due by 9:30am
Wed Sep 21, 2016	Sept 21 Prep: Practice Training a POS Tagger	due by 9:30am
Mon Sep 26, 2016	Sep 26 Prep: Chunking	due by 9:30am
Wed Sep 28, 2016	Sep 28 Prep: Syntactic Collocations; More on Term Weighting	due by 9:30am
Mon Oct 3, 2016	Oct 3 Prep: WordNet Lexical Relations	due by 9:30am
	WordNet Quiz	due by 9:30am
Wed Oct 5, 2016	Oct 5 Prep: Work on your Keyphrase assignment	due by 9:30am
Mon Oct 10, 2016	Keyphrase Identification Assignment	due by 9:30am
	Oct 10 - 19 Preparation Information	due by 11:59pm
Wed Oct 12, 2016	Oct 12 Prep: Names features	due by 9:30am
Fri Oct 14, 2016	Assess Keyphrase Output	due by 11:59pm
Mon Oct 17, 2016	Oct 17 Prep: Pandas Intro and Readings	due by 9:30am
Wed Oct 19, 2016	Oct 19 Prep: Work on Kaggle Assignment	due by 9:30am
Mon Oct 24, 2016	Oct 24 and 26 Prep: Work on Kaggle, think about final project ideas	due by 9:30am
Mon Oct 31, 2016	Kaggle-based Text Classification Assignment	due by 9:30am
	Oct 31 Prep: Read About Syntactic Parsing	due by 9:30am
Wed Nov 2, 2016	Nov 2 Prep: Distributional Semantics readings	due by 9:30am
	Review Quiz	due by 9:30am
Mon Nov 7, 2016	Final Project Proposal	due by 9:30am
Mon Nov 14, 2016	Nov 14 Class Prep	due by 9:30am

Date	Details	
Fri Nov 18, 2016	Clustering and Distributional Semantics	due by 5pm
Wed Nov 30, 2016	Nov 28 and 30 Prep: Readings and Quiz	due by 9:30am
	Review Quiz	due by 9:30am
Mon Dec 12, 2016	Final Project Assignment Writeup	due by 5pm