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CS 4740/5740 : Introduction to Natural Language Processing

(Fall 2017)

SchedulePiazzaCMS

All dates for lectures and unreleased assignments are estimates.

Instructor: Professor Claire Cardie (<lastname> at cs.cornell.edu)

To enroll in **Piazza** for this class, go to the sign-up page.
Our Piazza course page is here as well as via the tab above. (Be sure to check out the "Resources" section for course information, contact info, lecture slides, etc.)

#	Date	Lecture Topic	Readings	Out	In
1	**Aug** 22	Introduction to the course	Ch1 Jurafsky & Martin (skim)		
2	24	Language models: Intro	Ch 4.0-4.2 (2nd ed) or 4.0-4.1 (3rd ed)	critique 1 (see Piazza)	
3	29	Unsmoothed n-gram models			critique 1: due via **CMS** and **Gradescope** by 11:59pm.

4	31	Discussion of critique paper #1 Language models: Unknown words; Evaluation	Ch 4.3, 4.4 (2nd ed) **or** 4.2-4.3 (3rd ed)	Project I: LMs and Word Embeddings for Sentiment Classification	
5	**Sept** 5	Project 1 discussion Smoothing; Combining estimators	Ch 4.5-4.7 (2nd ed) **or** 4.4-4.6 (3rd ed)		
6	7	Word embeddings basics	**3rd edition** Ch 15-15.1; 15.3 (but not 15.3.1); 15.5; Ch 16.2 (but none of the 16.2.x subsections)		
7	12	Part-of-speech tagging Hidden Markov Model tagger	**3rd edition** Ch 10-10.4		Project I, Part One: due Monday, 9/11 11:59pm
8	14	HMM tagger (cont.)			
9	19	Lexical semantics for word sense disambiguation Lesk algorithm	**3rd edition** Ch 17-17.4; 17.6	Critique 2 paper	
10	21	ML classification for WSD	**3rd edition** Ch 6 (for newbies to ML); 17.5 (everyone)		Project I: due Thursday, 9/21 11:59pm

11	26	WSD evaluation and bootstrapping methods	**3rd edition** Ch 17.7		
12	28	Discussion of critique paper 2; Named Entity recognition	**3rd edition** Ch 21.1		Critique 2: due Wednesday, 9/27 11:59pm
13	**Oct** 3	Chunking; Opinion entities+relation extraction	**3rd edition** Ch 21.2-21.2.2; Ch 12.3; see also Breck & Cardie, in press 39.6-39.7		**Make-up midterm:** Sunday 10/04, 4pm, Gates 310 **Project 2 Proposal and baseline results due** Monday 10/03, 11:59pm
Oct 5: Midterm (in class)					
Oct 10: Fall Break					
14	12	In-class peer grading of midterm			
15	17				
16	19				
17	24	Question answering	3rd edition Ch 28-28.1		
18	26	Watson	3rd edition Ch 28.3		
19	31	Grammars and parsing	2nd edition, Ch 12		
20	**Nov**2	Syntactic parsing Bottom-up chart parser Earley algorithm	2nd edition, Ch 13-13.5		
21	7	No class: Claire sick			

22	9	CKY parser Treebanks	3rd edition, Ch 12-12.2		
23	14	Statistical parsing	3rd edition Ch 13-13.6.1	Critique 4 paper available	
24	16	Feedforward neural networks	3rd edition Ch 8-8.4		
25	21	Neural language models	3rd edition Ch 8.5		
Thanksgiving Break					
26	28	Recurrent neural networks Applications of RNNs in NLP	WildML tutorial		
27	30	Discourse analysis: text coherence, coreference resolution, and the problem of inference	2nd edition, Ch 21.2 introduction, 21.2.2 Ch 21.3, 21.7-21.8		
Final Exam: December 8, 2:00 pm					