SNHCC Spring 2016

Natural Language Processing and Information Retrieval with Applications in Social Networks,

Place: N107
Time : 1400-1700, Thurs **Chair: Dr. Wen-Lien Hsu**
Outline:
This course covers a broad range of topics in NLP and IR. Practical applications, fundamental algorithms and mathematical models are introduced. To raise students' study motivation, besides midterm and final exam, students are requested to be involved in one hands-on IR project near the midterm, and another NLP project in the end of semester.

Office hours: by appointment
TA : Cedric Parfait Kankeu Fotsing
Grades: (Midterm exam 35%. Final exam 35%. IR project: 15%. NLP project: 15%)

Week	Date	Topics/Brief Description	Lecturers
1	2016/02/18	Course Introduction and Overview[1], and Basic Text Processing[2]	Wei-Yun Ma
2	2016/02/25	N-gram Language Modeling[3]	Hsin-Min Wang
3	2016/03/03	Tokenization and POS Tagging[4]	Keh-Yih Su
4	2016/03/10	Machine Learning to IR and NLP[5]	Wei-Yun Ma
5	2016/03/17	Text Classification and Clustering	Hsin-Min Wang
6	2016/03/24	Syntax and Syntactic Parsing	Keh-Yih Su
7	2016/03/31	IR Modeling and Evaluation	Lun-Wei Ku
8	2016/04/07 (1300-1600)	Question Answering[6]	Yi-Shin Chen
9	2016/04/14	Relevance Feedback and Query Expansion	Lun-Wei Ku
10	2016/04/21	Midterm Exam	
11	2016/04/28 (1300-1600)	Information Extraction	Yi-Shin Chen
12	2016/05/05	Lexical Semantics	Wei-Yun Ma
13	2016/05/12	Word Sense Disambiguation and Semantic Role Labeling	Keh-Yih Su
14	2016/05/19 (1300-1600)	Ontology Construction	Yi-Shin Chen

[1] Please include various NLP and IR applications
[2] Please include regular expressions, word normalization and stemming, and sentence segmentation
[3] Please include evaluation (perplexity) and smoothing, how to use LM, such as using it in speech, and review fundamental Mathematics if necessary.
[4] Please include HMM. And if time allowed, some other models, such as Maximum Entropy Model and CRF, are added.
[5] Please include some basic concepts of ML, i.e, difference between ML and AI, (un)supervised learning, features, training/develop/testing set, etc. Please also introduce a certain ML tool, such as Weka. Please also provide some realistic examples about ML applications.
[6] Some successful practical QA systems are recommended to be introduced, such as IBM Watson.

15	2016/05/26	Selected Topics in Social Media Analytics	Lun-Wei Ku
16	2016/06/02	Deep Learning in NLP	Wei-Yun Ma
17	2016/06/09	Review Week	
18	2016/06/16	Final Exam	