STA5934 Text Mining with Deep Learning

Time: 1:20-2:10, Monday, Wednesday, and Friday
Place: OSB 327
Textbook: None
Lecturer: Dr. Jinfeng Zhang
Office:
Office hour: 2:10-3:10PM Monday

Prerequisite

Basic python programming.

Introduction

The course will teach students text mining techniques with an emphasis on deep learning using Python as the programming language.
The course will be taught on Zoom at the designated teaching times.
Recorded videos will be provided for most of the topics.

Grading

Grade will be determined based on performance from projects.

Teaching assistant

No teaching assistant for the course

Topics

Below are some tentative contents we would like to teach in the course. Based on the actual progress of the course, we may not be able to cover all the topics.

Text mining:

- Part of speech tagging
- Syntactic analysis
- Semantic analysis
- Text representation, especially bag-of-words representation
- Context of a word; context similarity
- Paradigmatic relation and Syntagmatic relation
- Entropy and mutual information
- Topic and coverage of topic
- Language model
- Clustering, document clustering, and term clustering
Text categorization, topic categorization, sentiment categorization, email routing
Spam filtering
Opinion holder, opinion target, sentiment, opinion representation
Sentiment classification
Rating prediction
Aspect rating and aspect weight
Latent aspect rating analysis (LARA)
Context (of text data) and contextual text mining

Deep learning:

Deep learning introduction
The mathematical building blocks of neural networks
Getting started with neural networks
Fundamentals of machine learning
Word embedding
Convolutional neural networks (CNN)
Recursive neural networks (RNN)
Generative deep learning
Graph based models

Academic Honor Policy
The Florida State University Academic Honor Policy outlines the University’s expectations for the integrity of students’ academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to “. . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University.” (Florida State University Academic Honor Policy, found at http://dof.fsu.edu/honorpolicy.htm.)

Americans with Disabilities Act
Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
http://www.disabilitycenter.fsu.edu/