

Syllabus CS 4250

Web Search and Recommender Systems

Class Hours: M/W 4pm-5.15pm

Instructor Information:

- Dr. Ben Steichen
- E-mail address: bsteichen@cpp.edu

Course Description

This course covers the history, key concepts, and architectures of modern Web Search and Recommender Systems. The course will cover search engine architectures and techniques, including crawlers, text processing, indexing, retrieval models, ranking algorithms, recommendation algorithms, and evaluation. The course will also cover the design and evaluation of search user interfaces.

- Textbook: Search Engines: Information Retrieval in Practice, Donald Metzler, Trevor Strohman, Bruce Croft, 2009. Available for free at:
<http://ciir.cs.umass.edu/downloads/SEIRiP.pdf>
- Grading Policy:
 - Assignments & Projects (40%)
 - Midterm exam (25%)
 - Final Exam (35%)

Expected Learning Outcomes:

- Describe and define the history, key concepts, and architectures of modern Web Search engines
- Preprocess Web documents through HTML parsing and tokenization
- Describe and apply retrieval models and Web page ranking algorithms
- Evaluate and compare search engine performance
- Design and evaluate novel Web search user interfaces
- Apply different Web recommendation algorithms and interfaces

Tentative Topics

- Introduction to Web Search
- Search engine architecture overview
- Web crawling
- Web document processing
- Web Retrieval
 - Introduction to retrieval models
 - Link analysis and Web ranking algorithms (e.g. PageRank)
- Web Search User Interfaces
- Recommender Systems (collaborative-based, content-based)
- Introduction to evaluation (for Web Search & Recommender Systems)

Class Policies:

1. Class attendance and participation is an integral component to complete this course satisfactorily. If you miss a class, please contact a fellow classmate and get updated about the materials covered in class. Office hours cannot be devoted to cover missed class lectures.
2. Late projects will not be accepted. In case you cannot complete a project by the due date, submit whatever you have completed for partial credit.
3. Make-up for the exams are only provided in case of a documented emergency situation
4. Please check your Cal Poly email account and Blackboard every day for course announcements.
5. All submitted work in the course must be your own. Academic dishonesty will be handled by university policy. The consequence of academic dishonesty is an immediate F grade in the course at the very least.