CSE 446 Machine Learning

Credits
3.0 (3 hrs lecture)

Lead Instructor
Dan Weld

Textbook
- *Machine Learning*, Murphy

Course Description

Prerequisites
either CSE 326 or CSE 332; either STAT 390, STAT 391, or CSE 312.

CE Major Status
Selected Elective

Course Objectives

ABET Outcomes
(a) an ability to apply knowledge of mathematics, science, and engineering
(b) an ability to design and conduct experiments, as well as to analyze and interpret data
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(d) an ability to function on multi-disciplinary teams
(e) an ability to identify, formulate, and solve engineering problems
(f) an understanding of professional and ethical responsibility
(g) an ability to communicate effectively
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
(i) a recognition of the need for, and an ability to engage in life-long learning
(j) knowledge of contemporary issues
(k) an ability to use the techniques, skills, and modern engineering tools necessary for
engineering practice

**Course Topics**
- Architecture of a Relation Extractor
- Supervised Learning & Logistic Regression
- Instaread and Features for ML
  - Project Discussion and Crawling the Web
- IR Models & Index Construction and Link Analysis & Pagerank
- SE Query Processing: Alta Vista
- NYU’s 2011 KBP System
- Computational Advertising
- Crowdsourcing
- Cryptography & Practical Internet Security
- Mining unstructured healthcare data