ComS 474 Introduction to Machine Learning
(formerly Elements of Neural Computation)
Spring 2015

Meeting time: M W F 10:00am-10:50am
Instructor: Jin Tian

In recent years machine learning has become a very hot field with many commercial and scientific applications. This course is intended as an introduction to machine learning and statistical pattern recognition. It will provide an introduction of widely used machine learning methods.

Catalog Description

Basic principles, techniques, and applications of Machine Learning. Design, analysis, implementation, and applications of learning algorithms. Topics include: statistical learning, pattern classification, function approximation, Bayesian learning, linear models, artificial neural networks, support vector machines, decision trees, instance based learning, probabilistic graphical models, unsupervised learning, selected applications in automated knowledge acquisition, pattern recognition, and data mining. Oral and written reports.

Target Audience

This course is targeted to senior undergraduate students in computer science, and graduate and undergraduate students in other disciplines (such as bioinformatics and computational biology, human-computer interaction, engineering, and statistics) who are interested in applying machine learning approaches to analyze their data.

Prerequisites

- Working knowledge of probability theory and basic linear algebra.
- Knowledge of algorithms and data structures, and programming experience in a contemporary high-level language, such as C, C++, Java.

Textbook


For more information, contact Jin Tian (jtian@iastate.edu).