Course: Machine Learning

Instructor: W.F. Lu

Course description

This course is designed to give students an introduction to the methodologies, technologies, mathematics, and algorithms currently needed by people who do researches in learning with data. At the end of this course, students will possess the essential abilities to read academic papers and do their researches. Basic knowledge in calculus, linear algebra, statistics, and probability is helpful in this course.

References

Introduction to Machine Learning,
Ethem Alpaydin, 2nd,
MIT, 2010

Machine Learning,
Tom M. Mitchell,
McGraw-Hill, 1997

Course Schedule

Introduction

Concept Learning

Decision Tree Learning

Bayesian Learning

Bayesian Learning

Parametric Methods

Multivariate Methods

Dimensionality Reduction

Dimensionality Reduction

Dimensionality Reduction

Clustering

Clustering

Nonparametric Methods

Local Models

Local Models

Hidden Markov Models

Paper Presentation

Paper Presentation

Course evaluation

Passing score for graduate course is 70. In general, score is allocated between class attendance, homework, mid-term written exam, final written exam and student

oral presentation. Course instructor reserves the right to adjust the grading scheme.