CS 6830: Machine Learning
Fall 2016

Class Meetings: Mon, Wed, Fri 10:45–11:40am, ARC 101
Instructor: Razvan Bunescu
Office: Stocker 341
Office Hours: Mon, Fri 9:30–10:00am, or by email appointment
Email: bunescu @ ohio edu
Class Website: http://ace.cs.ohio.edu/~razvan/courses/ml6830

Prerequisites:

The students are expected to be comfortable with programming and familiar with basic concepts in linear algebra and statistics.

Textbook:

Pattern Recognition and Machine Learning
    by Christopher Bishop. Springer, 2007

Recommended Supplementary Texts:

Machine Learning
    by Tom Mitchell. McGraw Hill, 2007
Pattern Classification
    by Richard O. Duda, Peter E. Hart, & David G. Stork. Wiley-IS, 2001
The Elements of Statistical Learning: Data Mining, Inference, and Prediction
    by T. Hastie, R. Tibshirani, & J. H. Friedman. Springer Verlag, 2009

Course Description:

This course will give an overview of the main concepts, techniques and algorithms that are relevant for the theory and practice of machine learning. The course will cover the fundamental topics of classification, regression and clustering, starting with simple learning models such as perceptrons, decision trees and logistic regression, and ending with more advanced models including Support Vector Machines, Conditional Random Fields and Bayesian Networks. The description of the formal properties of the algorithms will be supplemented with motivating applications in a wide range of areas including natural language processing, computer vision, bioinformatics and music analysis.

Grading:

    40%: Homework Assignments
    30%: 2 Midterm Exams (Sep 30 and Nov 14)
    30%: Final Project

Important Dates:
  Friday, Sep 2: Last day to add class.
  Monday, Sep 5: Labor Day, no class.
  Monday, Oct 3: Reading Day, no class.
  Friday, Oct. 28: Last day to drop class.
  Friday, Nov. 18: EECS faculty retreat, no class.
  Friday, Nov. 11: Veterans Day, no class.
  Wednesday, Nov. 23: Thanksgiving break, no class.
  Friday, Nov. 25: Columbus Day, no class.
  Friday, Dec. 2: Last day of this class.

Course and Attendance policies:
  Assignments: All homework assignments are due before the class. No late submissions will be accepted without prior approval.
  Attendance: It is in your best interest to attend the lectures. Some of the material will not be found in the textbook or on the slides. Extra credit will be awarded for class activity. Also, be sure to check your OU email for important announcements on a regular basis.

Academic Dishonesty Policy:
  All work must be the student's own. All external references used in reports must be properly cited. No credit will be given for duplicate or plagiarized work. Additional measures may be imposed by the University Judiciaries, when conditions warrant. Students may appeal academic sanctions through the grade appeal process. The OU Student Code of Conduct Policy is available online at:
  http://www.ohio.edu/communitystandards/academic/students.cfm

Disability-based Accommodation:
  Any student who suspects s/he may need an accommodation based on the impact of a disability should contact the class instructor privately to discuss the students specific needs and provide written documentation from the Office of Student Accessibility Services. If the student is not yet registered as a student with a disability, s/he should contact the Office of Student Accessibility Services.

Other Policies:
  Be sure to notify the professor of any exam conflicts or other extenuating circumstances well in advance. No missed exams will be made up without prior approval. Medical excuse forms need to explicitly mention that the student could not have attended the exam at the specified time due to health concerns.