CS-6375 Machine Learning, Summer 2019

Tuesday/Thursday 5:30 - 7:45PM, Room ECSS 2.306

Instructor: Haim Schweitzer
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Office Hours:
- Tuesday: 7:45-8:30PM

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- Saturday: 12:00-1:00PM

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Course Description

Texts

Required Text

Most of the material will be covered from class-notes with selected parts taken from sources available on the web.

There is no required text.

Other material

- T. M. Mitchell. Machine Learning. 1997.
- E. Alpaydin. Introduction to Machine Learning. 2004.
- T. Hastie, R. Tibshirani, and J. Friedman. The Elements of Statistical Learning. 2011. http://www-stat.stanford.edu/ tibs/ElemStatLearn/
- R. O. Duda, P. E. Hart, and D. G. Stork. Pattern Classification.
- Cristianini and Taylor. An Introduction to Support Vector Machines and other kernel-based learning methods. 2000.
- S. Russell and P. Norvig. Artificial Intelligence, A Modern Approach.

Important Dates

- Test 1: Thursday, June 27, 2019.
- Test 2: Thursday, August 1, 2019.
- Course Grades Available : August 12, 2019.

Grading Policy

- Ungraded Homework: 5%. (Assignments will not be graded.)
- Quizzes 9%. (Best 3/4 will be used to compute the grade)
- Graded Homework (projects): 10%.
- Test 1: 38%. (Open books.)
- Test 2: 38%. (Open books.)

Topics

- Decision Trees
- Neural Networks
- Linear Discriminants
- Deep Learning
- Evaluation of Learning Algorithms

- Bayesian and Naive Bayesian Learning
- Nearest Neighbor Algorithms
- Computational Learning Theory
- Adaptive Boosting.
- Support Vector Machines.
- Reinforcement Learning
- Unsupervised learning and clustering

Pre-requisites

- Pre-requisite: CS-5343

Attendance

1. Absence in three consecutive lectures will result in the course grade being lowered by one letter.

2. Absence in four consecutive lectures will automatically result in a failing grade (F) in the course.

Software

Additional Policies

- All exams are open books and notebooks.
- Computers are not allowed in exams, but pocket calculators may be needed.
- You must be present during the evaluation of your graded homework assignments.