Lecture 00: Logistics
Introduction to Machine Learning

Sajjad Amini

Department of Electrical Engineering
Sharif University of Technology

My Introduction

Personal Info

- **General:** Assistant Professor at Electronics Research Institute.
- **Office:** Second floor, Electronics Research Institute
- **Email:** s_amini@sharif.edu

Research Field

- Trustworthy Machine Learning
- Generative Modeling
- Speech and Audio Processing

Head Assistants

Figure: Mohammad Eshtehardian
(mohammadeshtehardian@gmail.com)

Figure: Mohammad Hossein Momeni
(momenihamaneh1381@gmail.com)

Course Timeline

Number	Date	Tpoics	Coursework	Deadline
1	1404-07-19	L00 - Logistics		
2	1404-07-21	L01 - Introduction		
3	1404-07-26	L01 - Introduction		
4	1404-07-28	L02 - Univariate Probability		
5	1404-08-03	L02 - Univariate Probability	HW1 Release (L00 to L03)	
6	1404-08-05	L03 - Multivariate Probability		
7	1404-08-10	L04 - Statistics		
8	1404-08-12	L04 - Statistics		
9	1404-08-17	L04 - Statistics	HW2 Release (L04 to L06)	HW1
10	1404-08-19	L05 - Linear Algebra		
11	Makeup Class 1	L06 - Optimization		
12	1404-08-24	L07 - Logistic Regression		
13	1404-08-26	L07 - Logistic Regression		
14	1404-09-01	L08 - Discriminant Analysis	HW3 Release (L07 to L09)	HW2
15	Makeup Class 2	L09 - Linear Regression		
16	1404-09-08	L09 - Linear Regression		
17	1404-09-10	L10 - MultiLayer Perceptron	HW4 Release (L10 to L11)	
18	1404-09-15	L10 - MultiLayer Perceptron		HW3
19	1404-09-17	L11 - Convolutional Neural Networks		
	1404-09-22	Midterm		
20	1404-09-24	L12 - Kernel Methods		
21	Makeup Class 3	L12 - Kernel Methods		HW4
22	1404-09-29	L12 - Kernel Methods	HW5 Release (L12 to L13)	
23	Makeup Class 4	L12 - Kernel Methods		
24	1404-10-01	L13 - Decision Tree		
25	1404-10-06	L13 - Decision Tree		
26	1404-10-08	L14 - Dimensionality Reduction		
27	1404-10-15	L14 - Dimensionality Reduction		HW5
28	1404-10-20	L14 - Dimensionality Reduction	HW6 Release (L14 to L15)	
29	1404-10-22	L15 - Reinforcement Learning		
30	1404-10-29	L15 - Reinforcement Learning		

Syllabus Overview

Objectives

- Foundational understanding of problem formulation in Machine Learning
- Working with different types of Supervised/Unsupervised/Reinforcement Learning scenarios
- Training and optimization procedures
- Real-world applications

Prerequisites

- Probability and Statistics

Don't worry! We will have ~ 11 sections to fully review main concepts especially in Probability and Statistics. The prerequisites are:

Syllabus Overview

Others

- Presentations are tailored toward the probabilistic formation of different approaches
- Homework: Theory Part + [Programming Part (Toy Datasets)] + [Programming Part]

This course is NOT

- Probability and Statistics
- Numerical optimization
- Linear Algebra

Grade Distribution

Activity	Percentage
Project	20
Homework	30
Midterm	20
Final	30

Course Policies

Extra Credit

Extra credit will be assigned to active class participation (up to 5%).

Course Attendance

Attendance is essential for learning objectives in this course due to the extensive material we'll cover. However, there's no formal attendance mandate.

Course Policies

Late Submissions

- You can use a total of 10 permissible late days for all homework assignments.
- You can use a maximum extension of 3 days for any single homework.
- Assignment grade reduces by 0.95 compounding factor for each day overdue beyond allowed late days.
- Solutions released 3 days post-deadline; homework not accepted afterward.

Academic Honesty Statement

Academic Honesty Statement

- Please avoid academic dishonesty including:
    - Cheating
    - Fabrication
    - Plagiarism
    - Facilitating Dishonesty
- Sanctions for acts of academic dishonesty.
- Make sure to contact me whenever you have questions regarding *Academic Honesty*

# Academic Honesty Statement

Cheating

- The course teaching team are so strict about cheating so:

  Don't Try Us Please!

- Missing a question, homework or even dropping the course is a much better way than cheating and accepting the risk.

- Pay attention! If you look at the solution on the web or your friend's homework, your mind is biased toward those writing and you are at the risk of being identified as a cheater.

- Just search or talk with your classmates about high-level ideas.

- All homework series, midterms and final will be precisely checked for possible cheating.

Main Textbook

LMS and Contacting Me
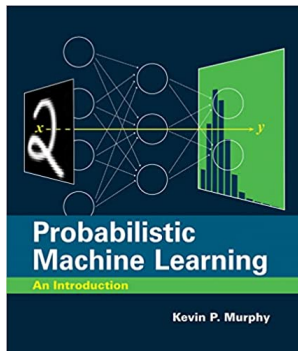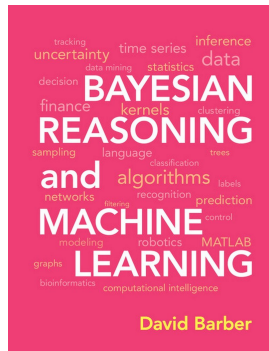
Learning Management Systems

For this course, we will use Sharif courseware (CW) for course materials.

Contacting Me

- Office hours: Sunday - 14 to 15 PM (Please coordinate with me through email)
- If Office hours do not work for you, send me a request via email.