COMP 5450 Machine Learning

Spring 2023

<u>**This syllabus represents a general plan and is subject to change.**</u>

Unless specified otherwise, all due times are 3:30 PM on that day.

No help will be given within 24 hours of a deadline (that is directly related to the content that is due).

All updates and announcements will be provided on Blackboard and here. Please check often.

Office hours: Tue and Thur (Dandeneau Hall Room 329, virtual option also available) 1:00-2:30 PM.

Class	Date	Contents	Note
1	Jan 17	Logistics & Introduction Preliminaries	● Reading: [The Discipline of Machine Learning](#)
2	Jan 24	Likelihood Estimation & Bayesian Learning	
3	Jan 31	Regression Decision Trees Group project Part I	● Practice building decision trees with the slide examples IC3, C4.5, and CART ● HW 1 out ● Deadline to send your project groups
4	Feb 7	Decision Trees	● Reading: Machine Learning by Tom Mitchell,

		Artificial Neural Network	Chapter 4: Artificial Neural Networks ● Project topic and outline due

5	Feb 14	Deep Learning	● Reading:
			  ○ LeNet
			  ○ VGG 16
			  ○ AlexNet

	Feb 21	**Monday Schedule**	**NO CLASS** ● HW 1 due ● HW 2 out
6	Feb 28	Project Progress Presentation	
	Mar 7	**Spring Break**	**NO CLASS**
7	Mar 14	Midterm	One cheat sheet (letter-sized), close book, no phones, but you can use calculators
8	Mar 21	Instance-based Learning Kernels & SVM	● Reading: Instance-Based Learning Algorithms
9	Mar 28	Unsupervised Learning Validation Techniques	● Reading: Data Mining. Concepts and Techniques by Jiawei Han, Chapter 10: Cluster Analysis: Basic Concepts and Methods
10	Apr 4	Dimensionality Reduction Ensemble Methods	● HW 2 due
11	Apr 11	Graphical Models	● Reading Pattern Recognition and Machine Learning, Chapter 8 Graphical Models ● **Project Due (Code and report/paper)**

12	Apr 18	Final Exam	
13	Apr 25	Project presentation	