Schedule

RIT Academic Calendar:
https://www.rit.edu/calendar

Machine Learning Schedule: Fall 2022

Week	Topics	Deliverables	Notes	Sources
1 Aug 22	**Overview:** What exactly *is* Machine Learning? **Classification vs. Regression:** Choosing vs. Scoring/Ranking		**Tues Aug 23** First Lecture	* Hastie Ch. 1, 2.1-2.3 * Review *#ml-applications* on discord
2 Aug 29	Least Squares: A **parametric** linear regression and classification model k-Nearest Neighbors: A **non-parametric** regression and classification model	**Thursday:** Quiz 1	**Mon Aug 29** Add/Drop ends	
3 Sept 5	Bayesian Decision Theory **Example:** parametric models using Gaussian feature distributions	**Tuesday:** Assignment 1 (Least Squares, Nearest N.) **Thursday:** Quiz 2	**Prof. Zanibbi away** Lectures from TA/online	Readings in MyCourses: * Charniak SLL Ch 2 * DuinEt Al Ch 2
4				

Sept 12	Bayesian Decision Theory, continued	**Thursday:** Quiz 3		
5 Sept 19	**Support Vector Machines:** Optimal linear binary classification (i.e., for two classes)	**Thursday:** Quiz 4	**Career Fair**	Hastie Ch. 12.1-12.1.3
6 Sept 26	**Ensembles:** Combining classifiers, regression using multiple models (e.g., decision tree ensembles)	**Thursday:** Quiz 5		Hastie Ch 9.2, 15 (skim) Criminisi 3.1-3.4
7 Oct 3	**Neural Networks:** Overview Loss functions & Backpropagation **Example Neuron:** 'Classic' Perceptron	**Tuesday:** Assignment 2 (Bayesian) **Thursday:** Quiz 6		Charniak DL Chs 1 and 2
8 Oct 10	Backpropagation & Autogradient Data use and training networks		**Mon-Tues (Oct 10-11):** Fall Break **Lecture Cancelled Tuesday**	
9 Oct 17	Basic neural nets in TensorFlow	**Tuesday:** Assignment 3 (SVM/Ens) **Thursday:** Quiz 7	**Thursday:** Group Project Overview	
10		**Wednesday:**		

Oct 24	TensorFlow	Group teams due		
11 Oct 31	**Convolutional Neural Networks** CNNs, continued	**Thursday:** Project Proposal		Charniak DL, Ch 3
12 Nov 7	**Recurrent Neural Networks**		**Registration Wk** (for Spring 2023)	Charniak DL, Ch 4
13 Nov 14		**Tuesday:** Quiz 8 **Thursday:** Assign 4 (CNNs)	**Tuesday**: Group Project Discussion *Course eval forms available*	
14 Nov 21		**Tuesday:** Quiz 9	**Tuesday:** Group project discussion **Wed-Fri (Nov 23-25):** Thanksgiving Break **Lecture Cancelled Thursday**	
15 Nov 28	Final topics + Project	**Friday**: Quiz 10		
1	**Exam Week:**	**Monday:** Assign 5	**Mon Dec 5** End of Classes **Tues**	

6 Dec 5	No Lectures **Exam on Friday 1:30pm-4pm**	(RNNs) **Friday (Exam):** Project Presentation	**Dec 6** Reading Day **Friday Dec 9** **Exam, 1:30-4pm
17 Dec 12	**Exam Week:** (Class finished)	**Monday:** Project report + code	**Wed Dec 14** Last Day of Exams **Fri Dec 16** Final Grades Due