Introduction to Machine Learning Section 03 1 1

Spring 2025   In Person   3 Unit(s)   01/23/2025 to 05/12/2025   Modified 01/23/2025

Contact Information

Instructor: Nagib Z Hakim, PhD

Office Location: DH 282

Telephone: 408 307-4484

Email: nagib.hakim@sjsu.edu

Office Hours: Wed 5:00pm - 5:50pm

Course Information

The course format is In-Person

Class Days/Time: Mon-Wed 6:00pm – 7:15pm

Classroom: CL 238

Course Description and Requisites

Covers a selection of classic machine learning techniques including backpropagation and several currently popular neural networking and deep learning architectures. Hands-on lab exercises are a significant part of the course. A major project is required.

Prerequisite(s): CS 146 (with a grade of "C-" or better). Computer Science or Software Engineering majors only.

Letter Graded

Classroom Protocols

Cheating and plagiarism, including from AI tools, will not be tolerated and will be sanctioned per University and Department guidelines. .

Students must be respectful of the instructor and other students. For example, no disruptive or annoying talking.

Turn off cell phones during class.

Class begins on time

Valid picture ID required at all times

Progr

- Deep Learning (Adaptive Computation and Machine Learning series) by Ian Goodfellow, Yoshua Bengio, Aaron Courville. ISBN-13: 9780262035613, ISBN-10: 0262035618

Course Requirements and Assignments

Course materials such as syllabus, handouts, notes, assignment instnn n

The schedule is subject to change with fair notice communicated via Canvas course page Course Schedule

1	27-Jan	Introduction
1	29-Jan	Linear model regression
2	5-Feb	Logistic Regression
2	7-Feb	Python tutorial / Sklearn modules and algorithms
3	12-Feb	Discriminant Analysis: Naïve Bayes, SVM, Kernels. Multi-class
3	14-Feb	Perceptron, dense NN
4	19-Feb	Result Analysis and Visualization
4	21-Feb	Deep NN Layers for image Classification
5	26-Feb	Keras library
5	28-Feb	Computer Vision Applications
6	3-Mar	Data Preprocessing, feature extraction
6	5-Mar	Recurrence, RNN: GRU, LSTM
7	10-Mar	decision trees

7	12-Mar	Boosting
8	17-Mar	PCA, Factor Analysis
8	19-Mar	Clustering Analysis: Kmeans, DBScan and variants
9	24-Mar	Review Session
9	26-Mar	EXAM 1
10	31-Mar	Vacattion
10	2-Apr	Vacation
11	7-Apr	Generative models: GAN
11	9-Apr	Recommendation Systems 1:
12	14-Apr	Recommendation system 2
12	16-Apr	Knowledge Representation: Embeddings
13	21-Apr	Attention: The Transformer
13	23-Apr	Pretrained models: BERT
14	28-Apr	LLM: From BERT to GPT to Chat-GPT

14	30-Apr	Reinforcement Learning
15	7-May	Project Presentations 1
15	9-May	Project Presentations 2
16	14-May	Industry Speaker Session
16	16-May	Exam 2