

## 6.86x Machine Learning with Python – From Linear Models to Deep Learning

Unit 0. Course Overview, Homework 0 and Project 0		
Week 1	Homework 0: Linear algebra and Probability Review	Due on Tuesday: <b>February 11</b> <b>UTC23:59</b>
Week 2	Project 0: Setup, Numpy Exercises, Tutorial on Common Packages Lecture 1: Introduction to Machine Learning Lecture 2: Linear Classifier and Perceptron Lecture 3: Hinge loss, Margin boundaries and Regularization	Due on Tuesday: <b>February 19</b> <b>UTC23:59</b>
Unit 1. Linear Classifiers		
Week 3	Homework 1 Lecture 4: Linear Classification and Generalization Homework 2	Due on Tuesday: <b>February 25</b> <b>UTC23:59</b>
Week 4	Project 1 :Automatic Review Analyzer	Due on Tuesday: <b>March 3 UTC23:59</b>
Unit 2 Nonlinear Classification, Linear Regression, Collaborative Filtering		
Week 5	Lecture 5: Nonlinear Classification Lecture 6: Linear Regression Lecture 7: Collaborative Filtering Homework 3	Due on Tuesday: <b>March 10 UTC23:59</b>
Week 6	Project 2: Digit Recognition Part 1	Due on Tuesday: <b>March 17 UTC23:59</b>

Unit 3 Neural Networks		
Week 7	Lecture 7: Neural Networks 1 Lecture 8: Neural Networks 2 Lecture 9: Recurrent Neural Networks 1 Lecture 10: Recurrent Neural Networks 2 Homework 4	Due on Tuesday: <b>March 24 UTC23:59</b>
Week 8	Lecture 11: Convolutional Neural Networks Project 3: Digit Recognition Part 2	Due on Tuesday: <b>March 31 UTC23:59</b>
Midterm Exam		
Week 9	Midterm Exam 1	Due on Monday: <b>April 06 UTC23:59</b>
Unit 4 Unsupervised Learning		
Week 10	Lecture 13: Clustering 1 Lecture 14: Clustering 2 Lecture 15: Generative Model Lecture 16: Mixture Models; EM algorithm Homework 5	Due on Tuesday: <b>April 14 UTC23:59</b>
Week 11	Project 4: Collaborative Filtering via EM Algorithm	Due on Tuesday: <b>April 21 UTC23:59</b>
Unit 5 Reinforcement Learning		
Week 12	Lecture 17: Reinforcement Learning 1 Lecture 18: Reinforcement Learning 2 Lecture 19: Introduction to Natural Language Processing Homework 6	Due on Tuesday: <b>April 28 UTC23:59</b>
Week 13	Project 5: Text-Based Game	Due on Tuesday: <b>May 5 UTC23:59</b>

Final Exam		
Week 14	Final Exam	Due on Monday: <b>May 11 UTC23:59</b>