**Online videos del curso**

Lecture 1 <https://www.youtube.comwatchv=UzxYlbK2c7E>

(adelantar hasta el min 30 +/-)

Overview of the course in this introductory meeting.

Lecture 2 <https://www.youtube.com/watch?v=5u4G23_OohI>

lectures on linear regression, gradient descent, and normal equations and discusses how they relate to machine learning.

Lecture 3 <https://www.youtube.com/watch?v=HZ4cvaztQEs>

Lectures on locally weighted regression, probabilistic interpretation and logistic regression and how it relates to machine learning.

Lecture 4 <https://www.youtube.com/watch?v=nLKOQfKLUks>

Lectures on Newton's method, exponential families, and generalized linear models and how they relate to machine learning.

Lecture 5 <https://www.youtube.com/watch?v=qRJ3GKMOFrE>

Lectures on generative learning algorithms and Gaussian discriminative analysis and their applications in machine learning.

Lecture 6 <https://www.youtube.com/watch?v=qyy>

Lecture on the applications of naive Bayes, neural networks, and support vector machine.

Lecture 7 <https://www.youtube.com/watch?v=s8B4A5ubw6c>

Lectures on optimal margin classifiers, KKT conditions, and SUM duals.

Lecture 8 <https://www.youtube.com/watch?v=bUv9bfMPMb4>

Cont lectura on support vector machines, including soft margin optimization and kernels.

Lecture 9 <https://www.youtube.com/watch?v=tojaGtMPo5U>

Lectures on learning theory, covering bias, variance, empirical risk minimization, union bound and Hoeffding's inequalities.

Lecture 10 <https://www.youtube.com/watch?v=0kWZoyNRxTY>

Cont Lecture on learning theory by discussing VC dimension and model selection.

Lecture 11 <https://www.youtube.com/watch?v=sQ8T9b-uGVE>

Lectures on Bayesian statistics, regularization, digression-online learning, and the applications of machine learning algorithms.

Lecture 12 <https://www.youtube.com/watch?v=ZZGTuAkF-Hw>

Lectures on unsupervised learning in the context of clustering, Jensen's inequality, mixture of Gaussians, and expectation-maximization.

Lecture 13 <https://www.youtube.com/watch?v=LBtuYU-HfUg>

Lectures on expectation-maximization in the context of the mixture of Gaussian and naive Bayes models, as well as factor analysis and digression.

Lecture 14 <https://www.youtube.com/watch?v=ey2PE5xi9-A>

Cont Lecture on factor analysis and expectation-maximization steps, and continues on to discuss principal component analysis (PCA).

Lecture 15 <https://www.youtube.com/watch?v=QGd06MTRMHs>

Lectures on principal component analysis (PCA) and independent component analysis (ICA) in relation to unsupervised machine learning.

Lecture 16 <https://www.youtube.com/watch?v=RtxI449ZjSc>

Lecture on reinforcement learning, focusing particularly on MDPs, value functions, and policy and value iteration.

Lecture 17 <https://www.youtube.com/watch?v=LKdFTsM3hl4>

Cont Lecture on reinforcement learning, focusing particularly on continuous state MDPs, discretization, and policy and value iterations.

Lecture 18 <https://www.youtube.com/watch?v=-ff6l5D8-j8>

Lecture on state action rewards, linear dynamical systems in the context of linear quadratic regulation, models, and the Riccati equation, and finite horizon MDPs

Lecture 19 <https://www.youtube.com/watch?v=UFH5ibWnA7g>

Lectures on the debugging process, linear quadratic regulation, Kalmer filters, and linear quadratic Gaussian in the context of reinforcement learning.

Lecture 20 <https://www.youtube.com/watch?v=yCqPMD6coO8>

Lectures on POMDPs, policy search, and Pegasus in the context of reinforcement learning.