MATH 462. MACHINE LEARNING

Credits: 3

Offered by: Mathematics and Statistics (Faculty of Science)

This course is not offered this catalogue year.

Description

Introduction to supervised learning: decision trees, nearest neighbors, linear models, neural networks. Probabilistic learning: logistic regression, Bayesian methods, naive Bayes. Classification with linear models and convex losses. Unsupervised learning: PCA, k-means, encoders, and decoders. Statistical learning theory: PAC learning and VC dimension. Training models with gradient descent and stochastic gradient descent. Deep neural networks. Selected topics chosen from: generative models, feature representation learning, computer vision.

- Prerequisites: (MATH 236 or MATH 247 or MATH 251) and (MATH 248 or MATH 314 or MATH 358) and (COMP 202 or equivalent or permission of the instructor).
- Restriction: Not open to students who have taken or are taking COMP 451 or COMP 551.

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