

Introduction to Machine Learning

Course format

Lectures and exercises based on either Matlab, Python or R (the participant can freely choose between these programming languages).

Tentative course schedule

	Monday 5/3-2018	Tuesday 6/3-2018	Wednesday 7/3-2018	Thursday 8/3-2018	Friday 9/3-2018
9:00 AM – 12:00 AM	Introduction Data and feature extraction	Data visualization Basic Probability theory	Nearest Neighbor Bayes and Naïve Bayes classifiers	Ensemble methods Class imbalance and AUC	Density estimation and outlier detection
	Lunch	Lunch	Lunch	Lunch	Lunch
1.00 PM – 4 PM	Measures of similarity Summary statistics	Decision trees Linear and logistic regression Overfitting and performance evaluation	Ridge regression The bias/variance tradeoff Artificial Neural Networks	K-means and hierarchical clustering Gaussian mixture modeling	Association mining Recap

Teachers

Morten Mørup and Mikkel N. Schmidt

Reading material

Tue Herlau, Mikkel N. Schmidt and Morten Mørup "Introduction to machine learning and data mining".

Prerequisites

Linear algebra as covered in this [study material](#).

Basic probability theory as covered in this [study material](#).

Basic programming skills in either Matlab, Python, or R.

The course will be given in English.