

# Machine learning course program

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- Week 1:
  - Introduction to machine learning.
  - K-nearest neighbours classification and regression. Extensions. Optimization techniques.
  - Decision tree methods.
- Week 2:
  - Bayesian decision theory. Model evaluation.
  - Linear classification methods. Adding regularization to linear methods.
- Week 3:
  - Regression.
  - Kernel generalization of linear methods.
- Week 4:
  - Neural networks.
  - Ensemble methods: bagging, boosting, etc.
- Week 5:
  - Feature selection.
  - Feature extraction.
- Week 6:
  - EM algorithm. Density estimation using mixtures.
  - Clustering.