Introduction to Machine Learning (COMP0088)

Description

Aims:
To have a full understanding of the learning outcomes.

Learning outcomes:
On successful completion of the module, a student will be able to:
1. understand machine learning at both the theoretical and practical level;
2. solve real-world machine learning problems using the right tools;

Content:
Introduction to Supervised Learning:
- Linear models for regression and classification: least squares, logistic regression;
- Concepts of overfitting and regularization, L1 and L2 regularisation;
- Boosting, Decision Trees, Random Forests;
- Support Vector Machines;
- Deep Learning: Neural Networks for regression and classification, Recurrent Neural Networks;
- Introduction to Unsupervised Learning;
- K-means, Principal Components Analysis, Sparse Coding;
- Expectation-Maximization, Mixture of Gaussians, Factor Analysis;
- Deep Autoencoders, Generative Adversarial Networks;

Requisites:
In order to be eligible to select this module, a student must be registered on a programme for which it is a formally-approved option or elective choice AND must have (i) an understanding of Calculus, Linear Algebra and Probability Theory; and (ii) proficiency in coding (preferably in Python).

Key information

Year: 2019/20
Credit value: 15 (150 study hours)
Delivery: PGT L7, Campus-based
Reading List: View on UCL website
Tutor: Dr Jason Kokkinos
Term: Term 1
Timetable: View on UCL website

Assessment

- Written examination (main exam period): 70%
- Coursework: 12%
- Coursework: 18%

Find out more

For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of August 2019. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.