

COURSE DETAIL

MACHINE LEARNING AND PATTERN RECOGNITION

Country

United Kingdom - Scotland

Host Institution

University of Edinburgh

Program(s)

University of Edinburgh

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

161

UCEAP Course Suffix**UCEAP Official Title**

MACHINE LEARNING AND PATTERN RECOGNITION

UCEAP Transcript Title

MACHINE LEARNING

UCEAP Quarter Units

8.00

UCEAP Semester Units

5.30

Course Description

This course covers fundamental theoretical concepts in machine learning, and common patterns for implementing methods in practice. The precise set of methods and algorithms used to illustrate and explore the main concepts changes slightly from year to year, however the main topic headings are expected to be fairly stable and include classification and regression (linear regression, logistic regression, and Bayes classifiers); expanded feature representations (basis functions, neural networks, and kernel methods); generalization, regularization, and inference (penalized cost functions, Bayesian prediction, and learning theory); model selection, pruning, and combination (cross-validation, Bayesian methods, sparsifying regularizers, and ensemble methods); and representation and metric learning (dimensionality reduction, clustering, and feature learning). To support these topics the course also covers optimization and inference algorithms such as stochastic gradient descent, simple Monte Carlo ideas.

Language(s) of Instruction

English

Host Institution Course Number

INFR11130

Host Institution Course Title

MACHINE LEARNING AND PATTERN RECOGNITION

Host Institution Course Details

<http://www.drps.ed.ac.uk/23-24/dpt/cxinfr11130.htm>

Host Institution Campus

Edinburgh

Host Institution Faculty

School of Informatics

Host Institution Degree

Host Institution Department

Course Last Reviewed

2023-2024

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