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 Campus
Edinburgh

Host Institution Faculty
School of Informatics

Host Institution Degree

Host Institution Department

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