COURSE DETAIL

4.00

INTERMEDIATE DATA SCIENCE Country Japan **Host Institution** Waseda University Program(s) Waseda University **UCEAP Course Level Upper Division UCEAP Subject Area(s)** Computer Science **UCEAP Course Number** 110 **UCEAP Course Suffix UCEAP Official Title** INTERMEDIATE DATA SCIENCE **UCEAP Transcript Title** INTERMED DATA SCI **UCEAP Quarter Units** 6.00 **UCEAP Semester Units**

Course Description

This is an intermediate-level course on data science with a focus on machine learning methods and algorithms using Python. First, the course introduces the big picture of machine learning using various examples, while teaching techniques of how to do data visualization for various types of data, a very important subfield of machine learning. The course also addresses decision tree learning; learning linear separators; logistic regression; generalization and overfitting; model selection and regularization; linear regression; ensemble learning; unsupervised learning; neural network models, and principal component analysis.

The course also covers prediction and classification tasks using artificial neural networks and deep neural network models, and how to inrperet the results of accurate but black-box machine learning algorithms. A thorough treatment of deep learning is covered through an advanced course, Advanced Data Science.

Language(s) of Instruction

English

Host Institution Course Number

INFY20ZL

Host Institution Course Title

INTERMEDIATE DATA SCIENCE

Host Institution Campus

Waseda University

Host Institution Faculty

Host Institution Degree

Host Institution Department

SILS

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