

COURSE DETAIL

INFORMATION THEORY FOR DATA SCIENCE

Country

Korea, South

Host Institution

Yonsei University

Program(s)

Yonsei University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Statistics

UCEAP Course Number

109

UCEAP Course Suffix**UCEAP Official Title**

INFORMATION THEORY FOR DATA SCIENCE

UCEAP Transcript Title

INFO THRY/DATA SCI

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course covers basic concepts of information theory, and discusses how these concepts are used in machine learning and data science. The first part of the course introduces various information-theoretic quantities including Entropy, Mutual Information, KL-divergence, and provides two main components of information theory: source coding and channel coding. The second part covers how information theory is used in machine learning and data science. Topics include various applications including recommendation systems, supervised learning, generative models, neural network compression, and distributed machine learning.

Language(s) of Instruction

English

Host Institution Course Number

STA4122

Host Institution Course Title

INFORMATION THEORY FOR DATA SCIENCE

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

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