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 Course Details
https://portal.yonsei.ac.kr/ui/index.html#

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed
2022-2023

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