COURSE DETAIL

HIGH-DIMENSIONAL DATA ANALYSIS
Country Korea, South
Host Institution Yonsei University
Program(s) Yonsei University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Statistics
UCEAP Course Number 110
UCEAP Course Suffix
UCEAP Official Title HIGH-DIMENSIONAL DATA ANALYSIS
UCEAP Transcript Title DATA ANALYSIS
UCEAP Quarter Units 4.50
UCEAP Semester Units 3.00

Course Description

This course covers recent statistical techniques in high dimensions and applies them to the analysis of real data. Students gain a broad understanding of various (non-convex) penalization techniques, dimensionality reduction, and more, with the goal of learning how to effectively summarize and interpret high-dimensional data and to systematically understand the challenges of analyzing data where the dimensionality of the data is comparable to or greater than the sample size.

Topics include introduction to high-dimensional data, regression in high-dimensions, (non-convex) penalization methods in high-dimensions, regression in high-dimensional with real-data applications, matrix estimation with rank constraints, graphical models for high-dimensional data, spectral clustering in high-dimensions, principal component analysis in high-dimensions, and quantile regression in high-dimensions.

Language(s) of Instruction
English

Host Institution Course Number
STA4125

Host Institution Course Title
HIGH-DIMENSIONAL DATA ANALYSIS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed

2024-2025

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