COURSE DETAIL

INTRODUCTION TO MATHEMATICS FOR DEEP LEARNING
Country Korea, South
Host Institution Yonsei University
Program(s) Yonsei University
UCEAP Course Level Lower Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 85
UCEAP Course Suffix
UCEAP Official Title INTRODUCTION TO MATHEMATICS FOR DEEP LEARNING
UCEAP Transcript Title DEEP LEARNING MATH
UCEAP Quarter Units 4.50
UCEAP Semester Units 3.00

Course Description

This course surveys basic mathematical tools for deep learning research. The course includes 1) advanced probability theory, 2) information theory, and 3) optimization theory. Topics include introductions to learning theory, review on probability theory, multidimensional Gaussian variables, Gaussian processes, optimal linear estimation, parameter estimation, bias and variance of an estimator, introduction to information theory, entropy, mutual information, KL Divergence, applications of information theory, introduction to optimization, stochastic gradient descent and its convergence, and other optimization techniques and its convergence.

Language(s) of Instruction
English

Host Institution Course Number
AAI2230

Host Institution Course Title
INTRODUCTION TO MATHEMATICS FOR DEEPLEARNING

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed
2024-2025

Print