

COURSE DETAIL

MATHEMATICAL FOUNDATIONS FOR MACHINE LEARNING

Country

Germany

Host Institution

Technical University Berlin

Program(s)

Technical University Berlin

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

132

UCEAP Course Suffix

A

UCEAP Official Title

MATHEMATICAL FOUNDATIONS FOR MACHINE LEARNING

UCEAP Transcript Title

MATH MACHINE LEARNG

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course explores mathematical concepts that are useful and frequently used in machine learning. Students examine linear algebra (vector spaces, scalar products, orthogonal vectors, matrices as linear mappings, determinants, eigenvalue and eigenvectors), analysis (differentiation), and probability theory (multidimensional probability distributions, calculations with expected values and variances). The class also discusses some contemporary applications of mathematics in machine learning.

Language(s) of Instruction

English

Host Institution Course Number

45965

Host Institution Course Title

MATHEMATICAL FOUNDATIONS FOR MACHINE LEARNING

Host Institution Course Details

<https://web.ml.tu-berlin.de/teaching/courses/>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Informatik

Course Last Reviewed

2025-2026

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