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Seminar Announcement

In the winter semester 2023/24, I will offer a seminar on the topic of

High-dimensional and Nonparametric Statistics

Preliminary discussion:

Thursday, 19 October 2023, 10.00 Uhr, Rudower Chaussee 25, Room 1.114

Detailed scheduling and assignment of topics at the preliminary discussion.

Contents:

High-dimensional and nonparametric (infinite-dimensional) models are crucial in modern statistics and data science, as they do not rely on strict assumptions which are present in traditional „parametric“ statistical models.

We will cover key topics in high-dimensional and nonparametric statistics, such as minimax risk bounds for estimation, and adaptive estimation. Those concepts are still highly relevant in contemporary research.

Participation in the seminar can lead to writing a Bachelor thesis in this area.

Prerequisites:

Stochastik I and *Stochastik II* (can be taken in parallel).

Courses with statistical component, such as *Methoden der Statistik* are recommended, but not required.

Literature:

Alexandre B. Tsybakov, *Introduction to Nonparametric Estimation*, Springer
Martin Wainwright, *High-Dimensional Statistics*, Cambridge University Press

This may be complemented with resaearch articles.