

Seminar: Foundations of Data Science

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Selected publications on

Algorithmic and Statistical Methods for Massive Data Analysis

Possible topics:

- ▶ Data reduction: Coresets and Sketches
- ▶ Streaming and distributed data analysis
- ▶ Random projections and importance sampling
- ▶ Dimensionality reduction and low-rank approximation
- ▶ Large-scale or high-dimensional optimization
- ▶ etc.

Organization (1)

Seminar type:

- ▶ open to students of Statistics, Data Science, Computer Science
- ▶ master's seminar (German/English by arrangement)
- ▶ (bachelor students can participate only by arrangement)
- ▶ seminar preparation during the semester (about 10 weeks)
- ▶ seminar sessions (4-5 meetings, end of semester)

Grading:

- ▶ written report (about 10 pages)
- ▶ oral presentation (25min + discussion)
- ▶ active participation

Organization (2)

Web: <https://www.statistik.tu-dortmund.de/datasciencews2122.html>

Registration:

- ▶ e-mail to alexander.munteanu@tu-dortmund.de (before September 19, 2021)
- ▶ name, TU Dortmund e-mail address and enrollment details (main subject, bachelor/master, enrollment number)
- ▶ bachelor students only by arrangement

Literature:

- ▶ distributed in the first week of the lecture period
- ▶ can be chosen according to interests (ties are broken randomly)
- ▶ can be changed in the beginning if free topics are available