#### CS-E4075 - Special Course in Machine Learning, Data Science and Artificial Intelligence D

### Signed graphs: spectral theory and applications





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# Special course on signed graphs

Logistics

Staff:

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A Zulip chat is being set up. For the moment, ask questions by e-mail or on MyCourses.

Pay attention to MyCourses for announcements and course materials.

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#### Schedule (tentative):

Tuesday, 20 April	10:15 - 12:00	Lecture	Review of spectral theory
Thursday, 22 April	14: <mark>30</mark> - 16:00	Lecture	Intro to signed graphs
Tuesday, 27 April	10:15 - 12:00	Lecture	Visualization
Thursday, 29 April	14:15 - 16:00	Exercises	
Tuesday, 4 May	10:15 - 12:00	Lecture	Correlation clustering
Thursday, 6 May	14:15 - 16:00	Exercises	
Tuesday, 11 May	10:15 - 12:00	Lecture	Spectral clustering
Thursday, 13 May	14:15 - 16:00	Lecture	Stochastic block model
Tuesday, 18 May	10:15 - 12:00	Lecture	Community detection
Thursday, 20 May	14:15 - 16:00	Exercises	
Tuesday, 25 May	10:15 - 12:00	Lecture	Open problems
Thursday, 27 May	14:15 - 16:00	Exercises	

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Evaluation: Pass/Fail.

- Two problem sets.
  - In each set all questions must be answered, at least half of them correctly.
- Report + presentation + Q&A.
  - Choose a paper yourself, to be approved by the teaching staff.
  - The report must describe the problem addressed in the paper, the technical contribution and possible shortcomings.

5 ECTS credits  $\approx 5 \times 27 = 135$  hours of your life.

Lectures + Exercise sessions = 21 hours.  $5 \times 27 - 21 = 114$ .

