High Dimensional Data Analysis 2021-2022

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Contents

1 Organisation

1.1 Lectures

- Theory (6-7 x 2.5 hours)
- PC Labs (5 x 2.5 hours)
- Q&A session (2.5 hours)
- Paper reading sessions (2 x 2.5hours)

1.2 Instructors

- Lectures: Lieven Clement (lieven[dot]clement[at]ugent[dot]be)
- Tutorials: Milan Malfait (milan[dot]malfait[at]ugent[dot]be)

2 Evaluation

2.1 End-of-term evaluation

- Exam in January: 10/20
- Written open book exam with open questions

2.2 Permanent evaluation

- 1 Project (7.5) + 1 homeworks (2.5): 10/20
- Written reports
- Group work:

    – project 4 people,
    – homework 2 people

3 Competences

3.1 Initial competences

- A basic course in probability theory and statistics (linear models, i.e, regression analysis and analysis of variance)
- Good basic knowledge of matrix algebra

3.2 Final competences

1. The student has knowledge of methods for analysing and exploring high-dimensional data sets
2. The student can see and quantify structures in large high dimensional/multivariate datasets, using the software R.
3. The student can value and interpret the statistical data analyses of high-dimensional data correctly.
4. The student can correctly report the results of the data analyses according to scientific standards
5. The student can comprehensively read scientific papers related to the course content.
6. The student can take responsibility and initiative in a group effort

Final Competence	HW1	HW2	Project assignment	End-of-term exam
knowledge of methods for analysing and exploring high-dimensional data set	XX	XX	X	XXX
see and quantify structures in large high dimensional/multivariate datasets, using the software R	XX	XX	XXX	X
value and interpret the statistical data analyses of high-dimensional data correctly	X	X	XXX	XXX
correctly report the results of the data analyses according to scientific standards			XXX	X
comprehensively read scientific papers related to the course content	X	X		XXX
take responsibility and initiative in a group effort			XXX	