Lecture (1)

- Website & news
  - Access requires authentication

- When?
  - Lecture: Tuesday, 08:30-10:00, A5 C013
  - Tutorium: Tuesday, 10:15-11:45, A5 C013
  - Exercises & assignments: mostly at home

- Who?
  - Prof. Dr. Rainer Gemulla
  - Contact: rgemulla@uni-mannheim.de
Lecture (2)

- For whom?
  - Master students, Ph.D. students
  - Business informatics / business mathematics / ...
  - 6 ECTS

- Prerequisites
  - IE 500 Data Mining I (recommended)
  - Basic knowledge of linear algebra (refreshed in lecture)
Exercises

- Smaller tasks to deepen topics covered in lecture
- No hand-in, no grading
- Discussion in tutorium
  - Let’s keep this interactive
  - Students first, instructors later
Assignments

- Larger tasks to gather practical experience or explore additional topics
- ≥ 4 assignments in total, e.g.
  - Analyze a dataset
  - Write a short essay
  - Implement an algorithm
  - Experiment with a toolbox
- Graded: solve individually at home & hand in
  - Fail
  - Pass (you need at least 3 passes)
  - Excellent (you get 1 bonus point)
- Feedback on solutions in tutorium
- Timeframe
  - ≥ 2 weeks time per assignment
The R Project for Statistical Computing

- We recommend to use R for the assignments
  - Download at [http://r-project.org](http://r-project.org)
  - Windows/Linux/OSX
- Frontends
  - Shell/GUI that comes with R
  - Emacs+ESS
  - Eclipse+StatET
  - RStudio
  - Jupyter
- Intro to R in tutorial next week
  - Install R and bring your laptop
Certificate

- Pass $\geq 3$ assignments
  - Must!

- Take the exam
  - Must!
  - At end of semester (probably Dec 12–Dec 22)
  - In English
  - Bonus points can be used to improve grade (-0.15 per bonus point)
  - We test *understanding*, not learning by heart
What to expect?

- **From us**
  - Lecture notes online day before lecture (hopefully!)
  - Timely grading of your assignments (but no individual feedback)
  - Discussion of issues and questions around the course
    - Primarily in tutorials
    - Also: per email, individual appointments if needed
  - Anything you’d like to add?

- **From you**
  - Be here (physically and mentally)
  - Be active (ask questions, answer questions)
  - Take notes, follow reading suggestions
  - Laptops for note-taking only
  - Talk to us early in case of problems / suggestions / ...
Literature

- David Skillicorn
  *Understanding Complex Datasets: Data Mining with Matrix Decompositions*
  Chapman and Hall, 2007

- Carl Meyer
  *Matrix Analysis and Applied Linear Algebra*
  Society for Industrial and Applied Mathematics, 2000
  [http://www.matrixanalysis.com](http://www.matrixanalysis.com)

- More in lecture notes