Database Technology
Organization

Heiko Paulheim
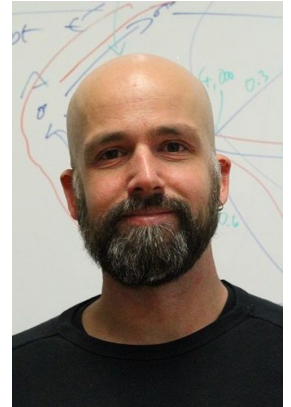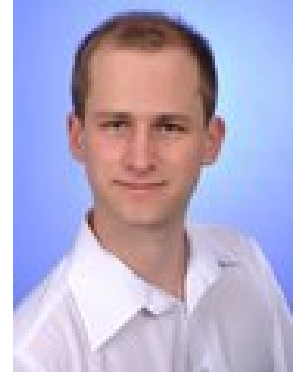
Hello

- Prof. Dr. Heiko Paulheim

- Chair of Data Science

- Research Interests:
  - Knowledge Graphs on the Web and their Applications
  - Data Quality and Data Cleaning on Knowledge Graphs
  - Using Knowledge Graphs in Data Mining
  - Societal Impact of Artificial Intelligence

- Room: B6 – B.022

- Consultation: Tuesdays, 9-10 am
  - Please make an appointment w/ Ms. Lermer upfront

- Heiko will teach the lectures

Hello

- Sven Hertling

- Ph.D. Student

- Research Interests:
  - Semantic Technologies / Semantic Web
  - Linked Data
  - Knowledge Graphs

- Room: B6 – B0.01

- Consultation: by appointment

- Sven will teach the exercises

Introduction and Course Outline

- Administration

- Introduction

  - Concept and (brief) history of relational databases

  - Introduction to the relational model

Course Organization

- Lecture
  - Database concepts
  - Theory of relational algebra, relational modeling, query processing
  - Introduction to SQL
- Exercise
  - Creating example databases
  - Hands-on experience
- Final exam

Course Contents and Schedule

- 22.2.: Introduction
- 1.3.+8.3.: SQL
- 15.3.: ER Models
- 22.3.: Normal Forms
- 29.3.: Index and Hashing
- 5.4.+12.4.: *Easter Break*
- 19.4.: DB Architectures
- 26.4.: Query Processing
- 3.5. : Query Optimization
- 10.5.: Transactions and Concurrency
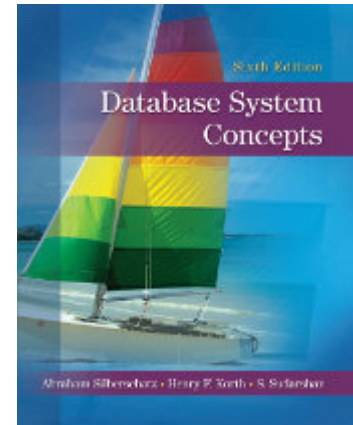- 17.5.: Recovery
- 24.5.: Application Development

you'll get a larger eggxercise assignment here

Course Organization

- Lecture Webpage: Slides, Announcements, Web Links

  - https://www.uni-mannheim.de/dws/teaching/course-details/courses-for-master-candidates/cs-460-database-technology/

  - hint: look at version tags!

- Additional Material

  - ILIAS eLearning System, https://ilias.uni-mannheim.de/

- Time and Location

  - Lecture: Wednesday, 12.00 – 13.30, B6 A104

  - Exercise: Wednesday, 13.45 – 15.15, B6 A104

- Remote teaching

  - For those who can't be there, we provide video recordings in ILIAS (from 2021, but they are widely identical)

Material and Sources

- This course (and the majority of the slides) are based on the book

  - Silberschatz et al.: Database System Concepts

- Several copies are available in the library

- Additional material online

  - www.db-book.com

Questions?