Application Scenarios and Case Studies

Course Description

This course provides an opportunity for students to work on application scenarios for data science in selected industry sectors. This allows the students to combine the learning objectives from the other modules in a setting which closely resembles further work applications. Starting from the identification of suitable application areas, a specific use case is selected and a set of metrics and/or KPIs is chosen that can be used to assess whether the case study can be considered successful and leads to tangible benefits. A broad discussion on which data and type of data to use, as well as where to obtain, store, and process the data, gives students a detailed insight into many practical issues that arise when dealing with data-driven projects, ranging from technical questions about infrastructure to data quality and relevant domain expertise. The actual work on the case study begins with the creation of a detailed project plan, which defines objectives, means, and outcome. The plan is then implemented using an agile project management framework. The course closes with the delivery of a design document and a final presentation in front of a committee of selected lecturers.

Contents

1. Introduction to Agile Frameworks
   1. Scrum
   2. Kanban
   3. EduScrum
2. Fields of Application and Case Study Setup
   1. Overview of Fields of Application
   2. Definition of Success
   3. Selection of Either of the Fields (One per Team)
3. Data Sources
   1. Identifying Potential Internal and External Data Sources
   2. Identifying Potential Data Types and Data Processing Requirements
   3. Identifying Potential Data Quality Challenges
4. Case Study Work
   1. Creating a Project Plan
   2. Implementation of the Case Study Using the Agile Approach
5. Case Study Presentation
   1. Case Study Presentation: Approach and Key Findings
   2. Creation and Submission of Case Study Report