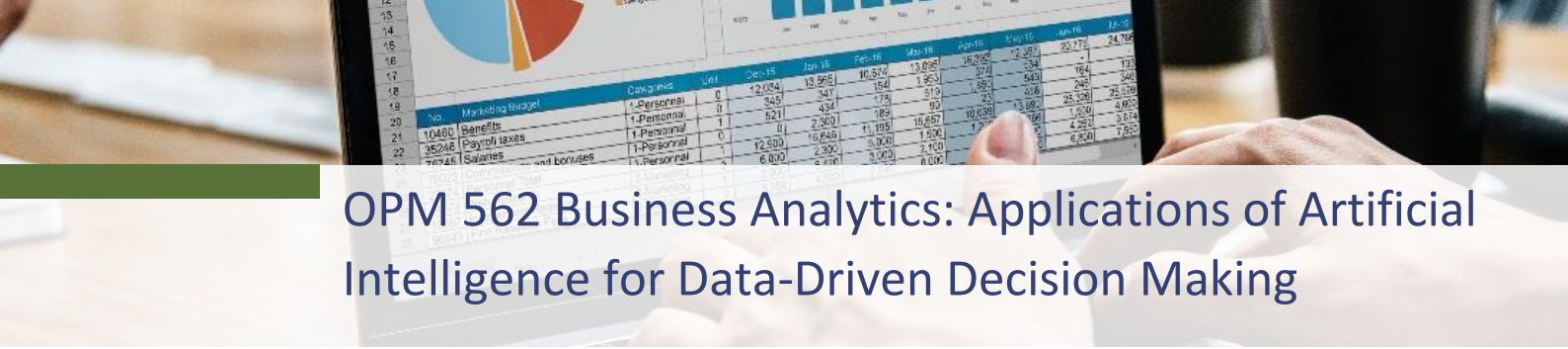

OPM 562 Business Analytics: Applications of Artificial Intelligence for Data-Driven Decision Making

The increasing availability of data about customer behavior and operational processes calls for its systematic exploitation to improve decision-making in businesses. This course introduces descriptive, predictive, and prescriptive Artificial Intelligence (AI) approaches for different Operations Management problems. In particular, machine learning approaches for supervised and unsupervised learning are introduced. For example, Neural Networks are presented to predict and optimize the performance of operations systems based on data. Applications in the areas of maintenance, production management, and the control of automated guided vehicles are discussed in detail.

An introduction to the basics of programming with Python is provided. This is the basis for own applications and implementations of AI approaches by the students. Moreover, the students will leverage libraries of AI approaches. During the course, the students will work on several case studies and assignments (individually or in groups).

General Information

Lecturer	Dr. Justus Arne Schwarz
Course Format	Integrated lecture and exercise with two succeeding blocks each week, assignments
Credit Points	6 ECTS (4 SWS)
Language	English
Grading	Individual assignments Group assignments Presentations
Term	Spring Semester
Range of Application	M.Sc. MMM, M.Sc. Bus. Edu

Learning Goals

- Students will be familiar with the fundamental concepts of different AI approaches.
- Students will learn how to select suitable AI techniques to obtain insights from big data sets of real-world problems to make business decisions supported by the data.
- Students will also develop programming skills that allow them to implement and apply AI approaches.

Prerequisites:

Basic knowledge in operations management (e.g. BSc course “Produktion”, or “OPM 301 Operations Management” or equivalent)

UNIVERSITY OF MANNHEIM Business School

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