



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

MUNICH INTERNATIONAL
SUMMER UNIVERSITY



MUNICH **MISU**^{LMU}
INTERNATIONAL SUMMER
UNIVERSITY

Machine Learning and Data Analytics in Finance and Accounting (MDA)

Munich, Germany
July 24 – August 11, 2023
www.mda-misu.de



Online-Sessions July 24 – August 1
In-class Sessions August 3 - 11



Munich 2023

Sessions: July 24 – August 11

Session will take place at: will be announced



Patronage

Prof. Dr. Thorsten Sellhorn

Institute for Accounting, Auditing and Analysis
Munich School of Management

Lecturer



Dr. Andreas Woltschläger

Professional expert and former Research Assistant
Institute for Accounting, Auditing and Analysis
at the Munich School of Management at LMU Munich



Dr. Gereon Hillert

Professional expert and former Research Assistant
Institute for Accounting, Auditing and Analysis
at the Munich School of Management at LMU Munich

Live seminar sessions

As live online tool for the courses, we will use "Zoom":

<https://lmu-munich.zoom.us/>

It is not mandatory to create a LMU Zoom account. You will receive an invitation by email before the first session for participation in class and the Zoom Client is usable in you browser.

Program

All times are stated in the CEST standard time format

Date	Time	Block	Content	Readings
Mon, 24.07. ONLINE	10:00 – 14:00	Intro	Introduction to machine learning and its application in finance and accounting	MG* - Chapter 1 (p. 1 – 4)
Tue, 25.07.			No class	
Wed, 26.07. ONLINE	14:00 – 18:30	Introduction to Python	Getting ready Python Basics for Data Science Case – Part 1	MG* - Chapter 1 (p. 5 – 11)
Thu, 27.07. ONLINE	9:00 – 13:00 Starting from 18:00 p.m.	Introduction to Python Team event	Importing, cleaning and merging data Case – Part 2 Bavarian and international culture	
Fri, 28.07.			No class	
Sat, 29.07. ONLINE	9:00 – 13:00	Introduction to Python	Natural language processing - Textual Analysis Case – Part 3	MG* - Chapter 7 (p. 3 – 325)

Date	Time	Block	Content	Readings
Mon, 31.07.			No class	
Tue, 01.08. ONLINE	9:00 – 13:00	Machine Learning	Unsupervised machine learning Case - Part 4	MG* - Chapter 2 (p. 25– 27)
Wed, 02.08.			Arrival in Munich	
Thu, 03.08. IN-CLASS	9:00 – 13:00 15:00– 17:00 17:30	Machine Learning Sightseeing Trip by Bus MISU Welcome Event	Supervised machine learning I - Basics	MG* - Chapter 2 (p. 25– 27)
Fri, 04.08. IN-CLASS	14:00 – 18:30 Starting 18:30	Machine Learning Recap and team event	Supervised machine learning II (GH) - Application Case - Part 5 Wrap-up & Q&A Recap and Bavarian culture II (Starting 18:30 p.m.)	MG* - Chapter 3 (p. 131-134)
Sat, 04.08. IN-CLASS	9:00 – 13:00	Machine Learning	Supervised machine learning II - Model evaluation Case - Part 6	
Sun, 05.08.	08:00		Day Trip Bavarian Castles	

Date	Time	Block	Content	Readings
Mon, 07.08. IN-CLASS			No class. Time to prepare case study presentations.	
Tue, 08.08. IN-CLASS	14:00 – 18:30	Presentations & Wrap-up 2	Presentations on supervised and unsupervised machine learning (e.g., prediction of house price)	
Wed, 09.08. IN-CLASS	9:00 – 13:00	Data Analytics I & II	Data Visualization Data description Statistical analysis Case - Part 7 Selected topics in data analytics Summary of overall content	
Thu, 10.08.			No class. Time to prepare for exam.	
Fri, 11.08. IN-CLASS	10:00 – 11:00 13:00	Exam Farewell Event		
Sat, 12.08.	No class Departure			

Note that the agenda is preliminary and may be subject to change.

References:

*** Andreas C. Müller, Sarah Guido: Introduction to Machine Learning with Python: A Guide for Data Scientists, 1st Edition - MG (Main Textbook)**

Bird, Steven; Klein, Ewan; Loper, Edward: Natural Language Processing with Python, First edition, 2009

Géron, Aurélien: Hands-On Machine Learning with Scikit-Learn and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems 1st Edition