LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN | MUNICH INTERNATIONAL SUMMER UNIVERSITY

MUNICH MISU LMU INTERNATIONAL SUMMER UNIVERSITY

# Artificial Intelligence (AI) and Machine Learning: Foundations and Applications in Corporate Finance

Munich, Germany
July 26 – August 12, 2027
www.ai-misu.de





Online-Sessions July 26 – July 31
In-class Sessions August 2 – 12

Tentative Schedule

# Munich 2027



## 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 "MS Teams":

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

**Classroom in Munich**
To be announced

# Program

All times are stated in the CEST standard time format

| Date | 9:00 a.m. - 1:30 p.m. | 2:00 p.m. – 6:30 p.m. |
|---|---|---|
| Mon, 26.07.2027<br>ONLINE | **Introduction**<br>• Introduction to machine learning and its application in finance and accounting<br>**Readings**<br>• MG* - Chapter 1 (p. 1 – 4) | |
| Tue, 27.07.2027<br>ONLINE | **Introduction to Python (1/3)**<br>• Getting ready<br>• Python Basics for Data Science<br>• Case – Part 1<br>**Readings**<br>• MG* - Chapter 1 (p. 5 – 11) | |
| Wed, 28.07.2027<br>ONLINE | **Self study**<br>• Time to rework the course content | |
| Thu, 29.07.2027<br>ONLINE | **Introduction to Python (2/3)**<br>• Importing, cleaning and merging data<br>• Case – Part 2 | **Knowledge- and Career event**<br>• Specific Corporate finance and/or AI topics<br>• Discuss up to date developments<br>• Career workshop |
| Fri, 30.07.2027<br>ONLINE | **Self study**<br>• Time to rework the course content | |
| Sat, 31.07.2027<br>ONLINE | **No class**<br>• Time to prepare student presentations | **Introduction to Python (3/3)**<br>• Natural language processing<br>• Textual Analysis<br>• Case – Part 3<br>**Readings**<br>• MG* - Chapter 7 |
| Sun, 01.08.2027 | **Arrival in Munich** | |

| Date | 9:00 a.m. - 1:30 p.m. | 2:00 p.m. – 6:30 p.m. |
|---|---|---|
| Mon,<br>02.08.2027<br><br>IN-CLASS | **Self study - Group Work**<br>• Solving Case Study | |
| Tue,<br>03.08.2027<br><br>IN-CLASS | **Machine Learning**<br>• Unsupervised machine learning<br>• Case - Part 4<br><br>**Readings**<br>• MG* - Chapter 2 (p. 25– 27) | **Machine Learning**<br>• Supervised machine learning I – Basics<br><br>**Readings**<br>• MG* - Chapter 2 (p. 25– 27) |
| Wed,<br>04.08.2027<br><br>IN-CLASS | **Machine Learning**<br>• Supervised machine learning II (GH) - Application<br>• Case - Part 5<br>• Wrap-up & Q&A<br><br>**Readings**<br>• MG* - Chapter 3 (p. 131-134) | **4:00 p.m. City Tour by bus** |
| Thu,<br>05.08.2027<br><br>IN-CLASS | **Self study - Group Work**<br>• Prepare Group Presentations | |
| Fri,<br>06.08.2027<br><br>IN-CLASS | **Machine Learning**<br>• Supervised machine learning II - Model evaluation<br>• Case - Part 6 | **Corporate Finance and AI Conference Munich**<br>• Current Research Topics<br>• Breakout Session for Students<br>• AI and its Impact on Current Finance Applications<br>• Networking Evening and Get-Together |
| Sat,<br>07.08.2027<br><br>IN-CLASS | **Self study**<br>• Time to prepare student presentations | |
| Sun,<br>08.08.2027 | **8:00 a.m. Day Trip: Caste Neuschwanstein** | |

| Date | 9:00 a.m. - 1:30 p.m. | 2:00 p.m. – 6:30 p.m. |
|---|---|---|
| Mon, 09.08.2027<br><br>IN-CLASS | **No class**<br>• Time to prepare exam | **Presentations & Wrap-up 2**<br>• Presentations on supervised and unsupervised machine learning (e.g., prediction of house price) |
| Tue, 10.08.2027<br><br>IN-CLASS | **Data Analytics I & II**<br>• Data Visualization<br>• Data description<br>• Statistical analysis<br>• Case - Part 7<br><br>**Closing** | **No class**<br>• Time to prepare exam |
| Wed, 11.08.2027<br><br>IN-CLASS | **Self study - Group Work**<br>• Group work – Preparation Exam | **No class**<br>• Time to prepare exam |
| Thu, 12.08.2027<br><br>IN-CLASS | **Exam: 12:00 – 13:00** | |
| Fri, 13.08.2027 | **Departure from Munich** | |

**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