

**2-DAY COURSE**

AI and Machine Learning Essentials

Fundamentals, Applications and Best Practices

TARGET AUDIENCE

Professionals, working with data but not directly involved in data science roles and who want to leverage AI/ML possibilities without needing deep technical skills, such as:

- Managers, business analysts, product managers, looking to integrate AI/ML into decision-making and strategy
- Consultants, advisors, and lifelong learners seeking practical AI/ML applications across industries

Participants should bring their own laptop (for hands-on experience)

ORGANIZATION

- EPFL (Swiss Federal Institute of Technology in Lausanne), Switzerland

OVERVIEW

In today's rapidly evolving landscape, AI and Machine Learning (ML) are reshaping industries, creating new possibilities for professionals in every field. Even if your role is not directly in AI or data science, understanding how these technologies work can equip you to enhance efficiency in your day-to-day business activities and help you stay at the forefront of the latest developments in your area of expertise.

How can AI tools help you increase productivity, enhance decision making or streamline processes? Through real-world case studies and interactive exercises, get inspired to uncover new AI-driven opportunities.

OBJECTIVES

- Develop an understanding of how AI and machine learning models are built, including tools like ChatGPT
- Identify how AI applies to your function, and recognise both opportunities and risks
- Gain hands-on experience with AI tools to improve productivity and efficiency in your daily tasks
- Explore the capabilities and limitations of Large Language Models (LLMs) like ChatGPT and understand their practical uses
- Develop the ability to effectively communicate and collaborate with data science professionals in various professional contexts



Tues. November 25, 2025
9 am to 5 pm
Wed. November 26, 2025
9 am to 5 pm



CHF 1500.–
10% special discount for contributing
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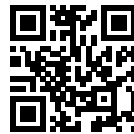
EPFL, Lausanne, Switzerland



On-line registration
Registration deadline :
August 31, 2025
Number of participants is limited



Certificate of attendance



PROGRAM

DAY 1 - Morning

INTRODUCTION TO MACHINE LEARNING

Frontal lesson with conceptual exercises

- Building blocks of AI (domain expertise, data, algorithms, infrastructure)
- Different types of learning (supervised, self-supervised, unsupervised, multimodal)
- Examples of real-world applications of AI

DAY 1 - Afternoon

CASE STUDIES IN MACHINE LEARNING

Hands-on exercises, discussion and initial brainstorming

- Data science pipeline essentials
- Hands-on case studies with interactive exercises
- Brainstorming on how to frame a machine learning problem

DAY 2 - Morning

LARGE LANGUAGE MODELS (LLMs) AND GENERATIVE AI

Frontal lesson and hands on exercises

- Introduction to Generative AI
- Applications and limitations of Generative AI models
- Considerations from a business perspective (model size, fine-tuning, RAG systems, etc)

DAY 2 - Afternoon

OPPORTUNITIES IN AI

- Operational considerations for AI projects
- AI project ideation (working in groups)
- Discussion of selected projects (problems encountered and lessons learned)
- Conclusion: Insights and key takeaways

PROGRAM DIRECTOR

- **Prof. Negar Kiyavash,**
Full Professor, Chair of Business Analytics, EPFL

INSTRUCTORS

- **Christian Lübbe,**
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