Liora

Syllabus

MLOps

YOUR FUTURE, **DECODED**

Table of content

Your future in tech starts here

We help **tomorrow's tech talent** take control of their future.

Our mission: to provide them with the tools, framework, and support they need to grow, acquire lifelong skills, and make a positive impact on the world.

Through a hybrid learning approach that combines **technological innovation** with **personal guidance**, we create a **unique experience** to prepare them for the challenges of tomorrow.

Key figures*

>70
Fortune 500 companies grow their teams with our training

92.3%
Insertion rate

89%
Satisfaction rate

91.3 %
Success rate

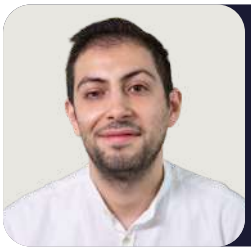
50K
Alumni Liora

They trust us

*Year covered by the indicators: 2024

Expertise that actually gets you further

Our **teaching team** is made up exclusively of **in-house professors**, fully dedicated to teaching and research. Their commitment ensures a **high-level learning experience**, aligned with **market demands**.



Charles S.
CTO & Academic Director (9 years of experience)
A graduate of École Polytechnique, Charles specializes in programming, Machine Learning, and Deep Learning.

Raphael K.
Academic Director
With over 10 years of experience in data and instructional design, he holds a Master's degree in Statistical Learning and Data Science from Université Paris-Dauphine. He has contributed to the structuring and creation of leading Data curricula, leveraging advanced skills in programming, statistical analysis, and machine learning.

Gaspard G.
Training lead Machine Learning Engineer
Graduate of a Master's in Mathematics from the École Normale Supérieure and a Master's in Data Science from Paris-Dauphine University, Gaspard specializes in Computer Vision and NLP. Today, he is in charge of the Machine Learning Engineer training program and actively contributes to the development of our expert-level Deep Learning courses.

Sébastien S.
MLOps Training lead
Graduate of engineering and business schools, Sébastien specialized in Data Engineering and is now in charge of the MLOps training program.

Book a meeting

Training that fits your rhythm

Liora offers a **fully remote training** experience in a hybrid format, combining **flexibility** with **hands-on learning** through a **Learning by Doing** approach.

You can choose the pace that fits your schedule:

Bootcamp

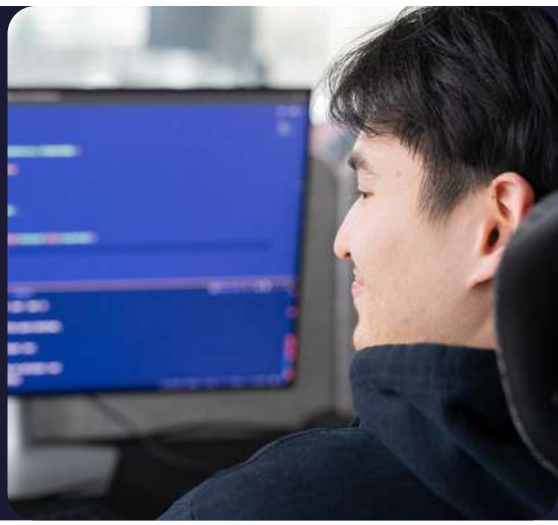
Fast-track your training with our intensive program

- Duration: **8 weeks**
- Pace: **35-40h/ week**
- Program length: **200h**

Part time

Flexible: the format designed to allow you to work while you train

- Duration: **5 months**
- Pace: **10-12h/ week**
- Program length: **200h**



Book a meeting

Training overview

Candidates must have:

- Good knowledge of python — especially Skicit Learn, Pandas, Numpy
- English fluency is required
- A free placement test will assess your skills

For candidates who do not meet the required qualification level, an exemption may be granted based on application and written test. Accessing the training requires a computer with internet connection and a webcam.

UNIVERSITÉ PARIS 1
PANTHÉON SORBONNE

Our MLOps training will provide you with a certificate from **La Sorbonne University.**

Book a meeting

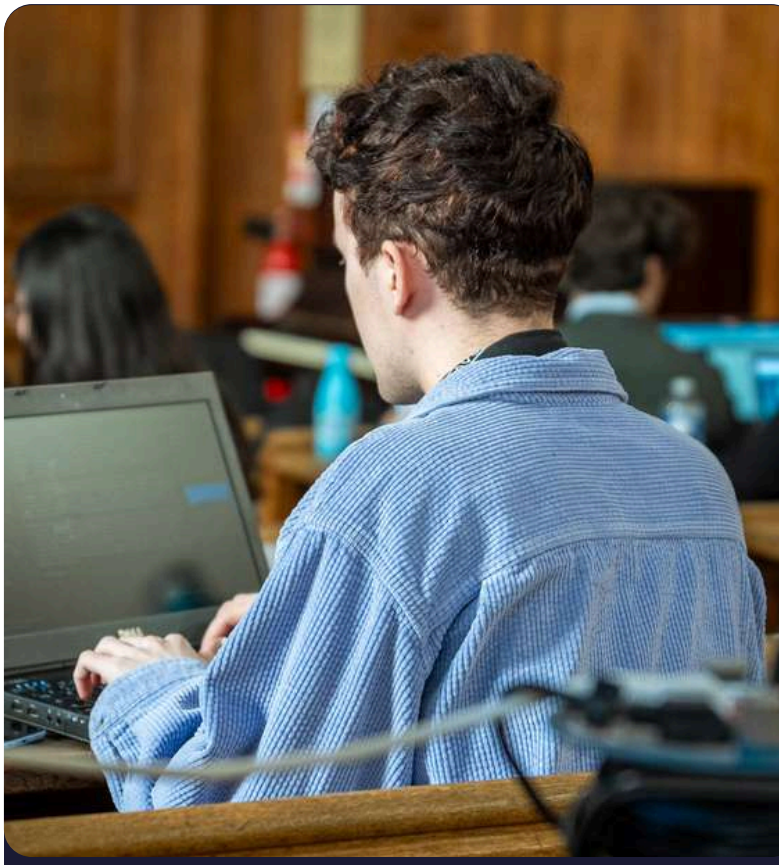
Backbone Project

Throughout the program, learners complete a hands-on project of approximately 40 hours designed to progressively combine all the skills acquired during the training. Carried out in pairs or groups of three, the project can be selected from a catalog of topics updated monthly and inspired by real professional challenges, or proposed as a personal project, subject to pedagogical approval.

Learners work with real, uncleaned data and receive regular guidance from a project mentor to produce work that meets professional standards.

This project enables a smooth transition from theory to practice, enhances employability, and serves as tangible proof of skills during job interviews.

Projects developed by our learners are showcased every quarter during the Data Days, dedicated YouTube live sessions where participants present their work.



Discover the Data Days

Your roadmap to becoming MLOps Engineer

Environment setup
Linux & Bash, Docker, Unit Testing, APIs & Security, LLM Development Environment

Experiment tracking and versioning
MLflow, Weights & Biases, DVC & DagsHub, NGINX, LangChain & LLM Experimentation

Orchestration, deployment, and LLMOps
Airflow, Prefect, BentoML, RAG & LLMOps

Monitoring and Agentic AI
Prometheus & Grafana, Kafka, Agentic Design Patterns

Scaling and MLOps Platform
Kubernetes, ZenML, AWS Cloud Practitioner

Book a meeting

Environment setup

35 hours

MLflow and Model Lifecycle Management

Learn how to use MLflow to track machine learning experiments, log parameters and metrics, and manage model versions.

This module aims to help you understand how to structure the transition from experimentation to deployment within a clear, reproducible MLOps framework.

API security

Discover the essential principles of API security, including API key management, basic HTTP authentication, and the use of JSON Web Tokens.

The goal is to master access control and secure data exchanges via HTTPS in modern application environments.

LLM development environment

Learn how to design a development environment for LLMs, from developer-oriented prompt engineering to unifying local and cloud models with LiteLLM.

This module also covers prompt security and the creation of a reliable and secure local coding assistant.

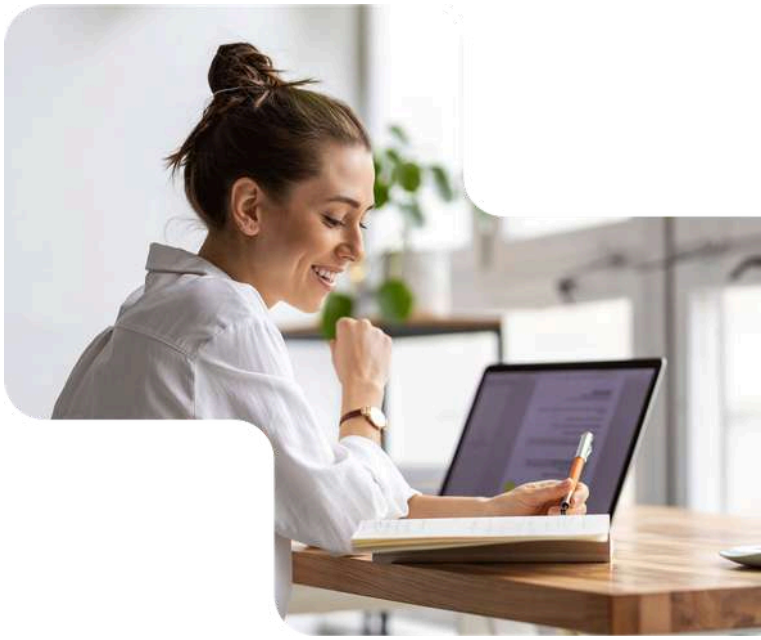
Experiment tracking and versioning

35 hours

Orchestration and monitoring of ML pipelines

Learn how to orchestrate data and machine learning workflows with Apache Airflow, then add experiment tracking using MLflow and Weights & Biases.

This section aims to help you structure robust, traceable, and reproducible pipelines, from execution to results analysis.



Application infrastructure with NGINX

Learn how to integrate NGINX as a reverse proxy and load-balancing solution for scalable architectures.

This module also covers key concepts in security, monitoring, and advanced patterns used in production environments.

LangChain and LLM experimentation

Discover how to use LangChain to build and experiment with LLM-based applications.

This section introduces the essential concepts (PromptTemplates, simple chains, memory, output parsers), as well as prompt tracking and versioning, custom metrics, evaluation and A/B testing, and automated unit test generation.

Orchestration, deployment, and LLMOps

35 hours

Advanced orchestration and observability

Discover how to orchestrate modern pipelines with Apache Airflow and Prefect, from workflow fundamentals to architecture and deployment.

This section includes a complete MLOps case study using Prefect, as well as an introduction to monitoring and observability with Prometheus and Grafana.

Applied RAG and LLMOps

Learn how to implement RAG pipelines within an LLMOps framework by integrating embeddings for semantic search and information retrieval.

This module covers document processing (loaders, chunking strategies, retrieval, and similarity search) and the construction of a RAG system applied to technical documentation.

Monitoring and Agentic AI

30 hours

Monitoring, observability, and model drift

Discover how to set up full observability for ML systems with Prometheus and Grafana, then learn how to detect and manage data and concept drift.

This section covers the different types of drift, associated strategies, and the use of Evidently for continuous monitoring of model performance.

Event-driven architectures with Kafka

Discover the fundamentals of event-driven architectures using Apache Kafka.

This module covers key concepts such as topics, brokers, producers, and consumers, as well as pub/sub patterns and event hubs for real-time data and ML pipelines.

Agentic design patterns and advanced ML/LLM monitoring

Learn how to implement agentic patterns using LangChain agents, including the ReAct pattern, tool usage, debugging, and verbosity management.

This section also focuses on advanced production monitoring of ML and LLM models, including custom metric creation, dedicated dashboards, anomaly detection, and automated system health monitoring.

Scaling and MLOps platform

25 hours

Containerization and MLOps with Kubernetes and ZenML

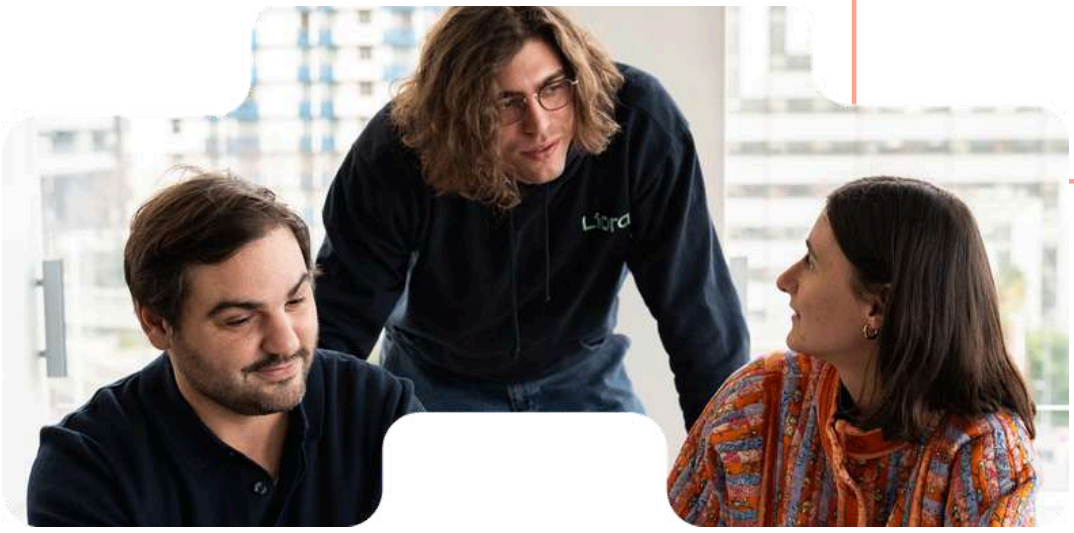
Discover how to deploy and orchestrate containerized services with Kubernetes to handle scaling and distributed architectures.

This section also introduces ZenML to structure ML pipelines, track experiments, and integrate data engineering and model deployment tools.

AWS Cloud Fundamentals

Learn the basics of cloud computing through Amazon Web Services by exploring the main services and use cases.

This module also aims to effectively prepare you for the AWS Cloud Practitioner certification by providing a clear overview of AWS cloud concepts, architecture, and best practices.



How to finance your training?

Before your registration, our admissions team will guide you to the most suitable training.

Company funding

Support the upskilling of your teams through public funding.
In Germany, companies may benefit from the **Qualifizierungschancengesetz (Qualification Opportunities Act)**, which allows the Agentur für Arbeit to co-finance employee training programs.
Ask your HR department or contact us to explore available funding options.

Training fee: 3.990 €

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Strategic partners to boost your employability

Liora is recognized for the **excellence** of its data **training programs**, offering high-level **certified courses** and **prestigious partnerships** that reflect their quality.

Liora is:

Amazon Training Partner

Our AWS certifications:

- AWS Solutions Architect
- AWS Cloud Practitioner

Microsoft Training Partner

Our Microsoft certifications:

- PL-900
- PL-300
- DP-203

Official Partner of Université Paris 1 Panthéon-Sorbonne

Our data programs are certified by Université Paris 1 Panthéon-Sorbonne, ensuring academic quality and recognition.

UNIVERSITÉ PARIS 1 PANTHÉON SORBONNE

Book a meeting

Our alumni share their experience

Adrien MOREAU

Data Scientist @Siderlog Conseil

"I found the training very interesting. First of all, it's important to mention the content, which is both rich and accessible. The 75% self-paced format is also something I found particularly beneficial. Being guided and encouraged to complete certifications to reach specific milestones helps maintain a steady pace."

Karina CASTILLO

Consultant and Data Expert @Expertime

"I took the Data Scientist course in bootcamp format, and I must say that although it's demanding, the instructors are very friendly and always attentive, in addition to being highly professional. I'd also like to highlight that they stay up to date with the latest technologies and topics related to data professions in general."

Cyrille CHEMAMA

Data Engineer GCP @GoWizYou

"I completed the Data Scientist bootcamp. Despite being a beginner in computer science and programming languages, the program was very educational and covered all the essential concepts for the role of a data scientist — from learning Python to data acquisition."

Complete your MLOps training

Our additional training courses

Developping on AWS
If you want to learn how to make architectural decisions in line with AWS best practices, this is the right certification for you! Earn the "**AWS Certified Solutions Architect – Associate**" credential.

Discover the training >

Power BI
Want to deliver a comprehensive analysis of a dataset and sharpen your dashboard creation skills? This training is for you! Learn to master Power BI and earn your official Microsoft certification as a "**Power BI Data Analyst Associate**".

Discover the training >

Need more information? We answer everything here!

Training objectives

- Sort, clean, and process data in order to analyze it
- Enhance the value of data, provide recommendations, and support decision-making
- Interpret results and create dashboards

Teaching methods

- **Practical work:** All training modules are available on our personalized teaching platform Train and include online exercises that gradually allow learners to apply the concepts developed in the course.

- **Masterclass:** Live training sessions with an instructor make it possible to address current issues related to technologies, methods, and tools in the field.

- **Project-based learning:** Enables the learner to engage in real-world professional situations (active learning).

Support and assistance

Every weekday from 9:00 a.m. to 5:00 p.m., our team of expert data trainers takes turns on a dedicated forum to provide **personalized technical support** to all learners. Numerous live Q&A sessions are also organized with our instructors.

Frequently asked questions

What salary can a MLOps Engineer expect?

As with roles like Data Scientist, Data Analyst, or Data Engineer, the salary of a Machine Learning Engineer in Germany depends on experience, the hiring company, and the city where they work.
On average, a junior Machine Learning Engineer in Germany can earn between €45,000 and €55,000 per year. For experienced professionals, salaries can reach up to €75,000 or more annually.

What skills will you have acquired by the end of the training?

Today, the AWS platform dominates the cloud market thanks to its ever-expanding range of services. DataScientest offers you an introductory experience with the platform through the Cloud Practitioner training.
The AWS Cloud Practitioner training allows users to understand what the Cloud is on AWS, explore the basic architectural principles, and cover key topics such as security, support, and pricing.

What is the access time for the training?

The registration for a training program depends on the financing option you choose:

- **Personal or company funding:** You can register up to the day before the training starts (subject to availability of spots).
- **Bildungsgutschein:** Registration must be completed within 2 to 6 weeks before the start of the training.
- **Qualifizierungschancengesetz (QCG):** Registration should be made within 2 to 6 weeks before the start of the training.

What career opportunities does the training offer?

Upon completing the Artificial Intelligence Engineering training program, you'll be qualified for a wide range of roles in the data and AI sectors, including:

- Artificial Intelligence Engineer
- AI Project Manager
- Big Data Engineer
- Deep Learning / Machine Learning Engineer
- Developer specialized in AI, Deep Learning, or Machine Learning
- Analyst specialized in AI, Deep Learning, or Machine Learning
- Data Engineer

To continue developing your expertise, DataScientest offers a range of certifications from leading technology providers such as Microsoft and AWS. These certifications allow you to deepen your knowledge and gain credentials that are widely recognized across Germany and the broader European market.

Are you in a situation of disability?

Liora will analyze all possible accommodations (pedagogy, materials, technical and human resources) to compensate for your disability and enable you to follow the training under the best possible conditions.

You can contact our disability coordinator for any inquiries regarding your situation: mathilde.v@datascientest.com.

To learn about the journey of a former student with hearing impairment who successfully obtained their diploma with Liora, feel free to click **here**.

Liora

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www.liora.io/en