

Become a AI/ML Engineer

12 months full-time / 24 months part-time | +2M optional
internship | AZAV-certified

4.8  student ratings



Join
thousands
of satisfied
graduates...

10K+

Graduates have launched
their tech careers with MSIT.



600+

Companies have hired
our graduates.

85%

of our graduates in
Germany found a tech job.

96%

of our students would
recommend MSIT.



... with tech
jobs at **world-
leading**
companies.

 Microsoft  intel.  NVIDIA Deloitte. Wix

 Meta  SAMSUNG  mobileye™ T E S L A

ebay  shopify  riskified waze  zalando

 Payoneer  home24  ONEDIGITAL  Taboola  Outbrain

Table of Contents



4

AI & ML ENGINEERING

Build core data and machine learning fundamentals.

8

HOW YOU LEARN AT MSIT

How you learn and the student experience.

12

FOUNDATION

Build core data, Python, and ML fundamentals.

14

SPECIALIZATION

Advanced AI systems, LLMs, and production engineering.

19

CAREER SUPPORT

1:1 guidance at every stage of your job search.

22

FAQS

Everything you need to know before starting your journey.

Why AI & ML Engineering — and why now.

Artificial intelligence is no longer the future — it's happening now. At the same time, there's a massive talent gap: companies are urgently looking for AI/ML engineers who can build real systems — not just train models. If you start now, you position yourself among the most in-demand and highest-paid professionals in tech.

The job market is changing — radically and fast.

- €75K–€100K average salary (senior €120K+)
- \$503B ML market by 2030 — 300%+ growth
- 77% of companies use AI — 60% lack talent
- Multi-agent systems are the next frontier
- High demand, limited talent supply



As an AI/ML Engineer, you'll:

- Build AI-powered applications and systems
- Work with LLMs, agents, and RAG pipelines
- Develop backend logic in Python
- Deploy production-ready AI solutions

This program doesn't just teach AI tools.

It prepares you to build real AI systems — in real-world environments.

What our graduates say



„12 months intensive, but the best decision of my career. I now earn 3x as much and work on the coolest AI problems imaginable.“

Antonija Mohar, Deloitte

„MLOps, multi-agent systems, production AI — the program really covers it all. After completion, I could step straight into a senior AI engineer role.“

Tsahi Sharon, WIX



„The AI & ML Engineering program transformed me from a classical data analyst into an AI/ML engineer. Now I build LLM applications that save €10K + monthly.“

Alain Mani, Raketech

Who is this program for?

The AI & ML Engineering program is designed for three target groups:

Career changers into AI & ML

You work in tech or another field and see AI is the future. You have technical basics, but ML is new. This 12-month program takes you from zero to AI/ML engineer — with real depth, not surface knowledge.

Data analysts who want to go deeper into AI

You're a data analyst and want to build real models, work with LLMs, and deploy AI in production. This program shows the shift from analysis to engineering — and turns you into an AI/ML engineer.

Backend/full-stack engineers with ML specialization

You can code and want ML as your next skill. This program skips basics and goes into advanced topics like LangGraph, CrewAI, and MLOps — taking you from engineer to AI engineer.



- Programming experience (Python) required or ready to learn
- Laptop provided
- €0 with Bildungsgutschein or QCG
- +2M optional internship

Our goal is your **job offer**

At MSIT, we don't just train you — we help you land a job:



1:1 Mentoring

Personalized support throughout your learning journey, with a mentor always there to guide you.



Government-funded

With a Bildungsgutschein or QCG, your training is 100% funded. MSIT's AZAV certification ensures a smooth process and our team supports you every step of the way.



World-class curriculum

Our curriculum is built by industry experts and constantly updated to match the latest tools and job market demands.



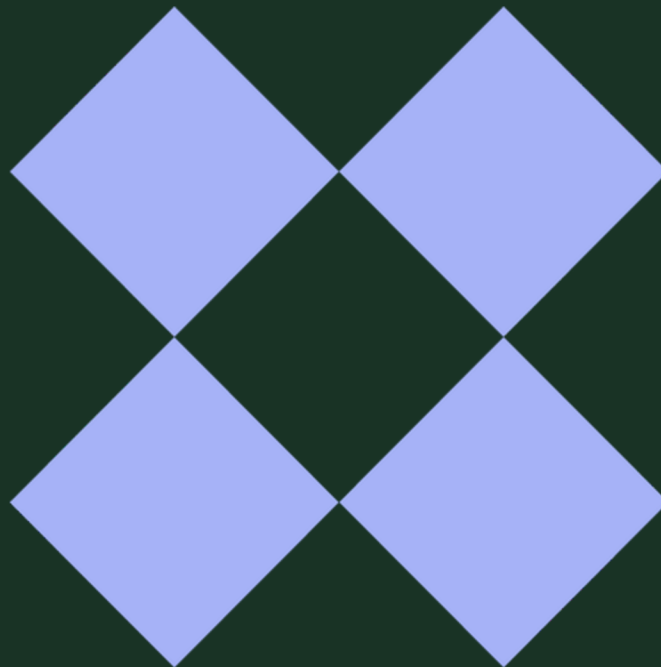
Unlimited career support

From CV to interviews, we support you every step of the way, even after graduation, until you land your job.



Free laptop

Get everything you need to succeed, including a laptop you can keep.



How you learn at MSIT

More about the student experience
and program schedule.

Program Structure

We've designed our training programs to evolve with both individual student needs and industry trends. **Here's how:**

The learning experience at Masterschool is personalized to fit each student's skills, pace and career goals to create an optimal learning experience for each student. We understand that career decisions evolve as you learn and our teaching methods reflect this thinking.

The curriculum is dynamic and adaptive. We are constantly tweaking the tools and technologies we teach, swiftly responding to the fast-changing industry. By constantly updating our content, we guarantee that our students are always learning the most relevant skills.

AZAV-certified program — All MSIT programs are officially recognized and certified.

12-month program

Foundation

🕒 Months 1-3

Data literacy, spreadsheets, Power BI basics, SQL (basic + intermediate), intro to Python — a solid data foundation. For those with Python experience, this part moves faster.

Specialization

🕒 Months 4-12

Data wrangling, ML & deep learning, AI automations & projects. LLM apps (RAG), production (FastAPI, Docker), MLOps. Advanced AI (agents, LangGraph) + mentoring & internship.

How you learn at MSIT

Guided, hands-on learning

Learn by doing with live sessions and guided practice. Build real projects from day one, no lectures, just experience.

Strong community

Learn alongside others and stay motivated together. Connect, collaborate, and grow your professional network.

1:1 support

Get continuous guidance from mentors and career coaches. Stay on track and become job-ready with personalized support.

Weekly Schedule — Full-Time

Attend both daily blocks with live sessions and guided practice (mentors via Zoom).

Part-time option

Attend one block daily and complete the program in 24 months. Same content, slower pace.

Important: 100% synchronous attendance required.

A Typical Week of Learning

	M	T	W	Th	F
9:00	Study Hall	Live session	Study Hall	Live session	Study Hall
10:00	Live session		Study Hall	Tutoring session	Project Work
11:00		Study Hall	Live session	Study Hall	
12:00	Study Hall		Study Hall	Study Hall	Study Hall
13:00					
14:00	Study Hall	Study Hall	Study Hall	Live session	Career Support
15:00	Live session		Live session		
16:00		Live session	Study Hall	Study Hall	Study Hall
17:00	Study Hall	Study Hall	Study Hall		
18:00					

* Schedules vary depending on each student's pace and program. This is an example of a typical week.



Get familiar with the most important **AI** **Engineering** tools & technologies.

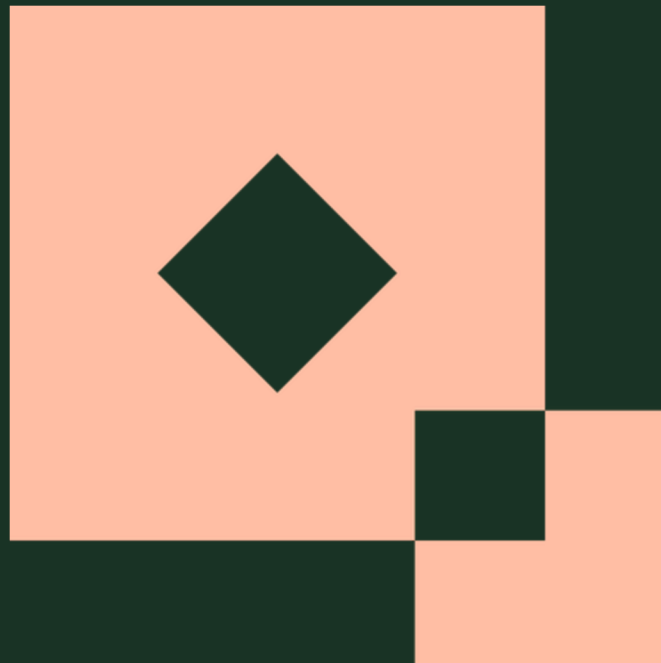
Learning materials are developed by industry experts. The curriculum is dynamic and continuously updated to reflect current trends and job market demands.

98%

satisfaction rate
2024 Success Report

You'll work with technologies including:

Python • NumPy • Pandas
Scikit-learn • PyTorch • TensorFlow
LangChain • LlamaIndex • Vector Databases
OpenAI API • Anthropic API
FastAPI • Docker • Kubernetes
MLflow • Weights & Biases
LangGraph • CrewAI
Databricks • Spark (MLlib)



Foundation

Build core data, Python, and
ML fundamentals

Months 1–2

Data Literacy, Spreadsheets, PowerBI, SQL & Python

You start by understanding how data works, how to visualize it, query it, and write your first Python code.

Content overview

- **Data Literacy:** What is data? How does it flow? Data types, analytical thinking, and data-driven decision making.
- **Spreadsheets:** Excel and Google Sheets — formulas, pivot tables, data cleaning and visualization basics.
- **Power BI:** Build your first dashboards, connect data sources, filters, slicers and visual best practices.
- **SQL Fundamentals:** SELECT, WHERE, JOIN, aggregations — the language to query databases intelligently.
- **Python Basics:** Data types, variables, conditions, functions — the foundation for everything that follows.

Technologies

- ◆ SQL
- ◆ Python
- ◆ Google Sheets
- ◆ Power BI

Month 3

Advanced SQL & Python

You deepen your SQL skills and start working with data using Python and Pandas.

Content overview

SQL Advanced: Window functions, CTEs, subqueries, UNION — answering complex business questions.

Python Intermediate: Lists, loops, dictionaries, string manipulation, working with files.

Pandas: Data manipulation and exploration — faster and more flexible than Excel for large datasets.

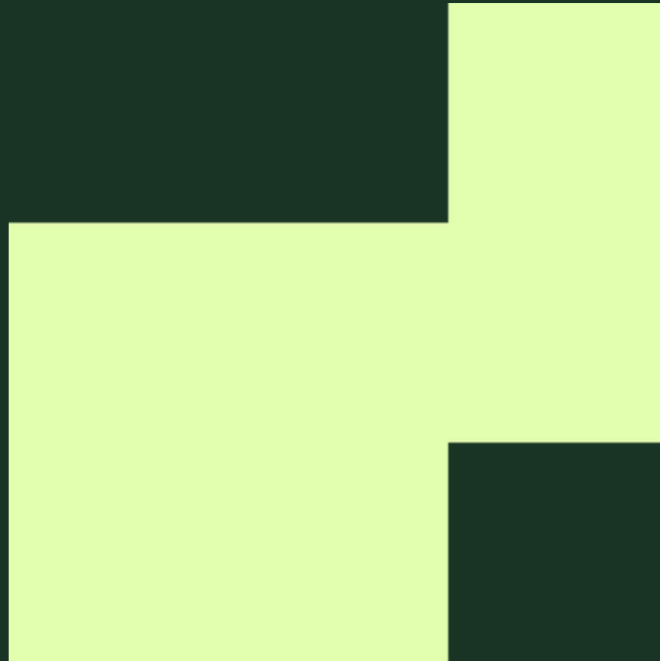
Data Wrangling: Clean and transform messy datasets, prepare data for analysis.

Technologies

SQL

◆ Python

Pandas



Specialization

Advanced AI systems,
LLMs, and production
engineering

Machine Learning, AI App Development & Production Engineering

You go from training your first ML models to building and deploying production-ready AI applications.

Content overview

- **Machine Learning:** Supervised learning and unsupervised learning, model evaluation and feature engineering.
- **AI & ML App Development:** LLM application patterns, RAG, embeddings, chunking, vector search, tool-augmented AI systems and function calling.
- **Production Engineering:** API design with FastAPI, Docker and containerization, serving ML and LLM models via APIs, reliability patterns and versioned endpoints.
- **AI Productivity:** Use AI tools to accelerate development, debugging and code generation throughout.

Technologies

- | | | |
|--------------|----------------|-------------|
| ◆ Python | ◆ Scikit-learn | ◆ LangChain |
| ◆ OpenAI API | ◆ FastAPI | ◆ Docker |

MLOps & LLMOps, AI Automations & Advanced AI Engineering

You learn to operate AI systems in production, automate workflows, and build sophisticated multi-agent architectures.

Content overview

- **MLOps & LLMOps:** Training and inference pipelines, experiment tracking, model registry and versioning, monitoring, drift detection, cost and latency tracking, guardrails and governance.
- **LangChain & LangGraph:** Build AI applications using orchestration frameworks — coordinate prompts, retrieval and external tools.
- **AI Automations:** Build automated workflows with n8n, connect LLMs to business tools and design human-in-the-loop systems.
- **Advanced AI Engineering:** Scalable agent architectures, multi-agent systems with LangGraph and CrewAI, advanced reasoning workflows, tool and API integration.
- **Mastery Project:** End-to-end AI/ML system — from data to deployed model, evaluated and production-ready.

Technologies

- | | | |
|----------|-------------|--------------|
| ◆ MLflow | ◆ LangChain | ◆ LangGraph |
| ◆ n8n | ◆ Python | ◆ Databricks |

Months 10-12

AI Product Design, Security, Governance & Capstone

You learn to design AI systems end to end, secure them for enterprise use, and deliver a production-grade capstone project.

Content overview

- **AI Product & Systems Design:** Scoping AI features, choosing the right approach (fine-tuning vs RAG vs agents vs prompting), cost/latency/quality trade-offs, end-to-end system architecture and AI system design interviews.
- **Security & Safety for AI:** Prompt injection defense, red-teaming, output validation, safe tool execution, authentication and rate limiting for AI APIs.
- **AI Governance:** EU AI Act compliance, monitoring and audit trails, responsible AI principles, organizational policy frameworks and safety benchmarks.
- **Capstone, Cert Prep & Job Placement:** End-to-end AI system, Databricks exam prep, portfolio polish, job interview prep.

Technologies

- ◆ Python
- ◆ CrewAI
- ◆ LangGraph
- ◆ FastAPI
- ◆ Docker
- ◆ Databricks

Learning Highlights



Learn the entire AI/ML spectrum

This isn't a quickstart course — it's a complete AI/ML craft bootcamp. From classical ML through deep learning to multi-agent systems. You genuinely cover everything the industry needs.

From theory to production AI

You don't just learn to train models — you learn to deploy, monitor, version-control, and scale them. Production engineering and MLOps aren't separate courses — they're integral.

Multi-agent systems & LangGraph

This is the AI engineering frontier: systems that think, plan, and collaborate. You learn LangGraph, CrewAI, and how to build intelligent systems that go far beyond single LLM calls.

100% career focus on top roles

Throughout the program, we prepare you for senior AI/ML engineer roles — not entry-level. The skills top companies seek, the interviews you need to pass, the projects that impress in your portfolio.



Databricks ML
Engineer Associate



Career Support

1:1 guidance at every stage
of your job search.

Career support for a **fast job start**.

At MSIT Institute of Technology, your career launch is our shared mission. That's why we offer a comprehensive career support system that equips you with everything you need for a successful job search.

Our approach is hands-on and individualized — because we know every career path is different. From your first application to a signed employment contract, we're by your side.

Career Sprint: Job-ready — before everyone else

A two-week intensive course helps you build a strong online presence and start networking before graduation. You'll learn proven methods that set you apart from other applicants and maximize your visibility with recruiters.

- Optimize your CV and LinkedIn profile
- Learn how to stand out among other applicants
- New networking strategies open doors in your industry



Dedicated Career Success Advisors (CSAs)

CSAs are professional job search experts — and they'll guide you through yours. They know the German job market inside out and help you present your strengths convincingly.

- Personal 1:1 coaching to optimize applications, set goals, and stay motivated
- Individualized feedback on CVs, pitches, and interviews
- Expertise for platforms like LinkedIn and StepStone



Career Sessions (Group)

- Speed Applications: Send multiple applications together as a group.
- Networking Crash Course: Use events to connect with recruiters.
- Interview Practice: Master HR screenings and technical interviews.
- Mindset: Stay motivated and resilient.



Practice with Industry Experts

1:1 prep meetings with experienced professionals for HR screenings, technical interviews, evaluations, and industry-specific application strategies. You'll walk into every conversation fully prepared and impress with expertise and confidence.

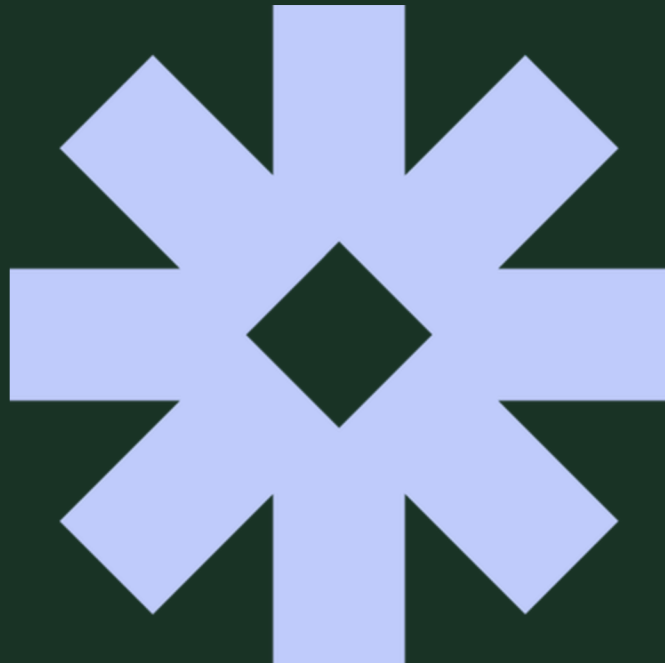


Job Search Platform

The MSIT Campus platform becomes your career hub: curated job listings, advanced job search resources and materials, plus a toolkit for CVs and cover letters. You'll also gain access to exclusive partner companies that are actively looking for MSIT graduates.

Our career support doesn't end when you finish the program. Even after graduation, our CSAs and the Campus platform remain available to you, so you can find the perfect start to your new career.





FAQs

FAQs

Do I need programming experience?

Yes, at least Python basics. If you've never coded, do a Python bootcamp or online course first. This program assumes you know variables, loops, functions, and classes.

Isn't that too much for 12 months?

No. 12 months full-time intensive is exactly right for real ML/AI expertise. It's not hectic — it's productive. You'll notice after 4 weeks that the pace works for you.

What does the program cost?

You pay €0. The program is fully government-funded — through the Bildungsgutschein (education voucher) from the Agentur für Arbeit (for job seekers) or the Qualifizierungschancengesetz/QCG (for employed professionals).

How is this different from online AI courses?

Online courses teach you to write code. This program makes you an AI/ML engineer. That's the difference between taking a course and undergoing a real career transformation.

FAQs

Can I study part-time?

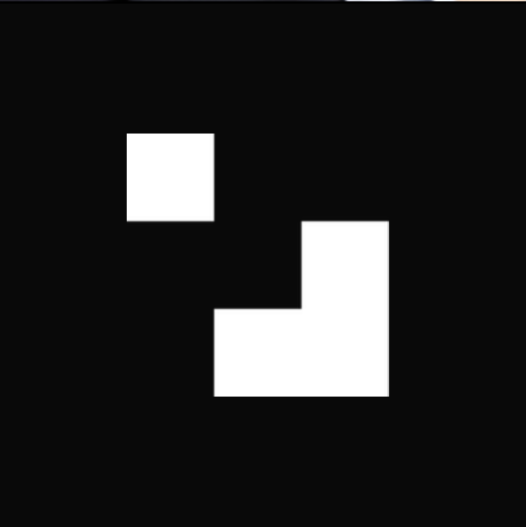
Yes! Full-time (12 months) or part-time (24 months, one block per day). Content is identical — only the pace differs. But part-time requires real commitment.

What is the optional internship?

After completion, you can apply for a 2-month paid internship. You work at a company in our network on real AI/ML projects. Perfect for building your network and transitioning straight into a job.

Do I get a laptop?

Yes. You receive a laptop with GPU, essential for ML training, that's yours to keep after the program.



„I started as a backend engineer knowing AI was the future — but didn't know where to begin. The 12-month program was intense, but after completion I was ready for a senior AI/ML role. Now I earn €100K and build the coolest systems imaginable.“

Patricia Sedó, Onlyfy