

ADVANCED ENTRY · FOR EXPERIENCED DEVELOPERS

Advanced AI Systems & Cloud Engineering

Built for developers who already ship code. Over six months you work on production AI systems, then cloud GenAI on AWS with MLOps, governance, and private LLMs.

ONE PROGRAM · TWO MODULES

-  AI Systems M1-3
-  Cloud GenAI M4-6



Free!

100% tuition-free

with a Bildungsgutschein from the Agentur für Arbeit or Jobcenter, for eligible learners in Germany.*



Certification preparation

Structured preparation for AWS Certified AI Practitioner and AWS Certified Generative AI Developer – Professional, plus your completion certificate.

6 months full-time

Monday to Friday · 1,200 teaching units · two modules, each ending with a capstone.



LANGUAGE OF INSTRUCTION

English

German for career and job-market topics



LOCATION

100% online

Instructor-led, with daily practical labs



DEVICES

Laptop provided

For the duration of the course

*Eligibility is decided individually by the employment agency — Ai School cannot guarantee approval.

Six months from shipping code to running GenAI in the cloud.

A lateral-entry program in two modules: production AI systems with RAG, agents, and evaluation, then cloud GenAI on AWS with MLOps, security, cost control, and private LLMs.

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How to start

DURATION 6 months, full-time Monday to Friday	VOLUME 1,200 teaching units ~120 instruction days	FORMAT Live online Instructor-led	GROUP SIZE Max. 12 participants Per group
LANGUAGE English instruction German for career topics	LEVEL Advanced entry Git, APIs, Docker, deployment	ENTRY CHECK Portfolio review Plus a short technical conversation	COST 100% tuition-free With a Bildungsgutschein, if eligible*

Who it is for

- Experienced developers with Git, APIs, Docker, and deployment evidence
- IT professionals targeting cloud GenAI and MLOps-oriented roles
- Developers who want depth in AWS GenAI and private LLM patterns

What makes it different

- 01

Starts where you are

No beginner foundations. The entry check confirms your delivery baseline, so module 1 opens with integration contracts and failure modes.
- 02

Cloud with cost discipline

Bedrock and SageMaker patterns, infrastructure as code, observability, budgets, and incident response — the operational side, not only the model.
- 03

Private AI for German data rules

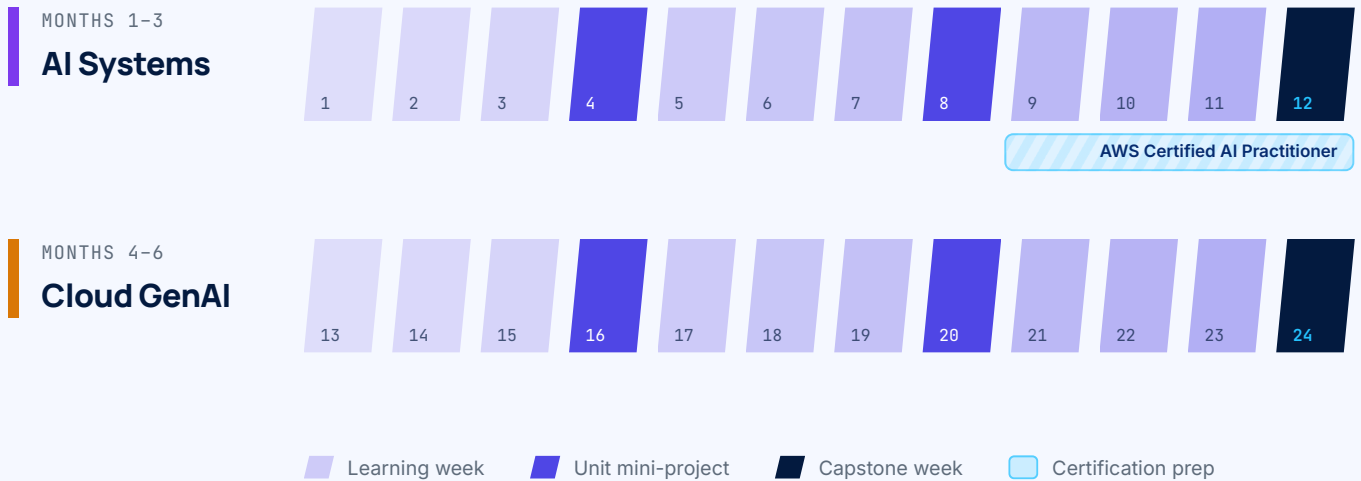
Ollama, vLLM, and on-premise patterns, so you can argue when data residency rules out a public API — and show the latency and cost trade-off.

By the end of the program, you can

- Design integrations that survive retries, failures, and load
- Ship GenAI workloads on AWS with Bedrock and SageMaker
- Deploy and judge private LLMs with Ollama and vLLM
- Build RAG and agent services, then evaluate quality and cost
- Run MLOps pipelines with infrastructure as code and monitoring
- Show two capstones with deployment and evaluation evidence

Your six months, week by week

Two modules of twelve weeks. The second builds on the first, and each ends with a capstone you demo and add to your portfolio.



How a module works

WEEKS 1-11

Learn and build

Live input every morning, labs every afternoon. Each unit closes with a short mini-project that pulls its topics together.

FINAL WEEKS

Certification prep

Exam preparation happens inside the program hours, alongside your project work.

WEEK 12

Capstone week

Finish, test, and demo your project. You get feedback and add it to your portfolio.



Why this order

You make systems reliable before you make them cloud-scale. Module 1 settles integration, retrieval, agents, and evaluation; module 2 takes that into AWS with MLOps, security, budgets, and private deployment.

Topics and tools are indicative and updated as the industry changes. These two modules are also blocks 3 and 4 of the 12-month Full Stack AI & Cloud Engineering program.

WEEK 12

Capstone

A production-style AI system with a runbook

WEEK 24

Capstone

Your final cloud GenAI project

What you learn, module by module

Each module is 3 months and 600 teaching units, split into three units. Units end with a short mini-project; each module ends with a capstone week.

MODULE 1 OF 2 • MONTHS 1-3 • 600 TEACHING UNITS

01 AI Systems

Connect systems and ship RAG and agent services that are reliable and affordable.

1.1 • Weeks 1-4

Integration & reliability

- Systems thinking: contracts and failure modes
- Events, webhooks, retries, and queues
- Advanced n8n orchestration
- Logging, alerts, and runbooks

Mini-project • A reliable integration with test evidence

1.2 • Weeks 5-8

RAG, agents, evaluation & cost

- Chunking, embeddings, and vector databases
- Agents and tools with an audit trail
- LLM evaluation and token cost modeling
- Deploying and monitoring AI services with FastAPI

Mini-project • RAG microservice + eval report + cost estimate

1.3 • Weeks 9-12

Capstone with governance

- Architecture and data-flow design
- Security and governance for AI systems
- DPIA-style checklist and hardening

Prep • AWS Certified AI Practitioner

Capstone • Module 1 capstone demo

MODULE 2 OF 2 • MONTHS 4-6 • 600 TEACHING UNITS

02 Cloud GenAI

Run GenAI on AWS and on private infrastructure — with MLOps and cost discipline.

2.1 • Weeks 13-16

Engineering, data, ML & local LLMs

- Python for AI engineering: testing, typing, CI
- Data engineering foundations
- ML basics and model evaluation
- Private LLMs with Ollama and vLLM

Mini-project • Public API vs. local LLM comparison

2.2 • Weeks 17-20

AWS GenAI, MLOps & governance

- MLOps / LLMops with Bedrock and SageMaker
- Infrastructure as code with Terraform
- Observability, budgets, and incident response
- Security, access control, EU AI Act readiness

Mini-project • Threat model + compliance one-pager

2.3 • Weeks 21-24

Final capstone

- Architecture, SLOs, and a cost model
- Two build sprints: hardening, evaluation, load
- Demo, portfolio, and your employer story

Capstone • Final capstone demo

How you learn

You work full-time in a real online classroom with other experienced developers. Mornings are live. Afternoons are labs, project work, and code review.

A typical day



You are not learning alone

■ Mentoring

Instructor feedback, one-on-one mentoring, review sessions, and extra practice when a topic is hard.

■ Assessment

Labs with feedback, unit mini-projects, and a capstone demo at the end of every module.

■ Completion certificate

Meet the attendance, assignment, project, and assessment requirements to receive your Ai School / StartSteps certificate.

Your toolbox

AI ENGINEERING



Python



FastAPI



LangChain



Vector DBs



CloudWatch

CLOUD & PRIVATE AI



AWS Bedrock



SageMaker



Terraform



MLflow



Ollama



vLLM

Tools are examples. We update the stack as the industry changes.

Built for cloud AI and MLOps-oriented roles

You already ship software. This program adds AI systems and cloud GenAI delivery, with the deployment evidence, evaluation reports, and documentation that hiring teams can check.



Certification preparation

MODULE 1	AWS Certified AI Practitioner	Amazon Web Services
MODULE 2	AWS Certified Generative AI Developer – Professional	Amazon Web Services
MODULE 2	AWS Machine Learning Engineer – Associate	Optional stretch goal
MODULES 1-2	Ai School / StartSteps completion certificate	For every completed module

We prepare you for external exams; passing cannot be guaranteed and is not required to complete the course.

Roles this program can prepare you for

AI Systems Engineer

Integration Engineer

GenAI Engineer

Cloud AI Engineer

MLOps / LLMOps Engineer

Your readiness depends on your effort, project quality, language level, and prior experience.

Your portfolio after six months

- ✓ An AI systems capstone with an evaluation report
- ✓ An advanced cloud GenAI capstone with deployment evidence
- ✓ Infrastructure as code, monitoring, and budget evidence
- ✓ A public API vs. private LLM comparison with real numbers

Career support

- ✓ CV and LinkedIn improvement
- ✓ Portfolio preparation and project storytelling
- ✓ Interview practice and soft skills
- ✓ Job-search strategy for Germany

Start your program

As early as possible. Funding decisions and course preparation take time — start before the course date gets close.

1

Apply or book a free call

Tell us your goals on aischool.de. We help you choose the right program and tell you the next start date.

2

Orientation conversation

We look at your background, goals, and funding situation together.

3

Talk to your agency

Book an appointment at your Agentur für Arbeit or Jobcenter. We give you the course documents.

4

Start with your cohort

When your funding is in place, you join your group. We provide a laptop for the course.

What you need

- ✓ A proven delivery baseline: Git history, APIs, Docker, and deployment evidence
- ✓ A maintainable application you can walk us through
- ✓ A portfolio review and a short technical suitability conversation
- ✓ Time for full-time online learning, Monday to Friday, for six months
- ✓ For Bildungsgutschein funding: living in Germany and registered with Agentur für Arbeit or Jobcenter

Good to have

- ✓ Testing and CI/CD discipline already part of how you work
- ✓ Some cloud exposure — any provider
- ✓ A clear target role — GenAI, cloud AI, or MLOps engineering

For your Agentur für Arbeit / Jobcenter appointment

Show these details to your case worker.

MEASURE

Full Stack AI & Cloud Engineering mit individuellem Eintritt

MODULES IN THIS PROGRAM

Bausteine 3–4: AI Systems & Automation Development · Full Stack AI & Cloud Engineering

PROVIDER

StartSteps Digital Education GmbH, Berlin

APPROVAL

AZAV-approved measure · CERTQUA · Reg. no. 2026M101555-10001

SCOPE

2 × 600 UE = 1,200 UE · fully online

Questions? Let's talk.

Book a free advisory call or write to us. We usually reply within 1–2 business days.

PROGRAM & CURRICULUM

Zia@aischool.de

FUNDING & PAPERWORK

info@startsteps.org
+49 32 221854528



Scan for the program page and application

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StartSteps Digital Education GmbH · Rheinsberger Str. 76/77 · 10115 Berlin
HRB 220327 B · VAT ID DE334434389