

Curriculum AI Engineering

Ai+

Become an AI Engineer – your entry into the world of Artificial Intelligence: In our hands-on bootcamp, you'll learn step by step how to develop AI solutions, train machine learning models, and deploy them in the cloud. From the basics to implementing your own projects – practical and future-proof.

Experienced coaches will personally guide you and prepare you for a career as an AI Engineer, Data Scientist, or Machine Learning Specialist – regardless of whether you have IT experience or are changing careers. With real-world projects, individual mentoring, and the possibility of receiving an educational voucher, you'll lay the foundation for your future in AI and Data Science.

10 Years
of Building
Careers

Tech-Stacks

Programming & Database

- Python
- Visualization
- Unix / Command Line
- Git / GitHub
- Intermediate SQL

Exploratory Data Analysis (EDA) & Statistics

- Data Cleaning & Preparation
- Data Analysis
- Data Visualization
- Feature Engineering

Machine Learning Algorithms

- Supervised Learning
- Unsupervised Learning

Model Tuning & Optimization

- Bias-Variance Tradeoff
- Regularization
- Cross-Validation
- Gradient Descent
- Cost Functions

Evaluation & Performance Metrics

- Confusion Matrix
- Regression & Classification Metrics
- Error Analysis

Deep Learning

- Artificial Neural Networks
- Convolutional Neural Networks
- Pre-trained Networks & Transfer Learning

Natural Language Processing

- LLM
- Prompt Engineering
- RAG
- AI Agents

Hypothesis & A/B Testing Time Series Analysis APIs & Web Scraping Streamlit

Software Engineering

- Code refactoring and OOP
- Unit & integration testing
- API building
- Containerization with Docker
- Intro to Google Cloud Platform

Deep Learning

- Artificial Neural Networks
- Convolutional Neural Networks
- Pre-trained Networks & Transfer Learning

Data Engineering

- Data modeling and ETL
- Data architecture & pipelines with dbt
- Workflow orchestration with Prefect
- Batch & real-time data processing

Machine Learning Modeling

- Basics of ML
- Behavioral testing
- Experiment & model versioning with MLflow
- Deployment strategies with GCS
- Batch & real-time predictions

Model Monitoring and Maintenance

- CI/CD
- Data version control
- Service & model performance monitoring and tracking with Prometheus and Grafana
- Data & model drift monitoring with Evidently
- Training-to-Production pipelines

Portfolio Projects

- Project 1: Exploratory Data Analysis
- Project 2: Predictive Modeling
- Data Science & AI Capstone Project (4 weeks)
- Machine Learning Capstone Project (4 weeks)

Data Ethics

Collaborative Working & Social Learning

- Pair Coding
- Agile Workflow
- Self-organization Skills
- Group Work, Individual Exercises, Reversed Classroom
- Communication with Stakeholders & Presentations
- Career Coaching & Mentoring

Soft Skills

Teamwork

Problem solving

Communication skills

Time management

Adaptability

Attention to detail

Open to criticism

Patience

Self-motivation

The curricula presented here serve as an exemplary guide to the course content. Adjustments to the content and schedule for didactic and organizational reasons, as well as to adapt to the state of technology and current labor market requirements, are expressly reserved, without affecting the overall character of the course or its quality.