Northcoders

Upskill in AI & Machine Learning

Curriculum & Prerequisites

Ofsted
Outstanding
Provider

What's Covered 🔍

Dive deep into AI and machine learning by building your own RAG-powered AI system, taking you from foundational concepts to solving real-world problems with practical applications. You'll gain hands-on experience with neural networks, decision trees, LLMs, embeddings, and fine-tuning models through industry-relevant projects.

Key Topics:
- Large Language Models
- Neural Networks
- Decision Trees
- Embeddings
- Model Fine-Tuning
- Retrieval Augmented Generation (RAG)

Prerequisite Skills ✔️

This course is designed to build on existing knowledge.
To join, you'll need to know:

Programming Skills
- Strong proficiency in Python
- Experience with Python libraries and package management (pip, virtual environments)

Mathematics Fundamentals
- Comfort with mathematical notation and technical documentation
- Basic understanding of probability and statistics (distributions, mean, variance, correlation)

Data Manipulation
- Understanding of data types and structures

Programming Concepts

- Working with APIs and making HTTP requests
- Understanding of JSON and data serialisation
- Familiarity with file I/O operations
- Experience debugging code and troubleshooting errors

Technical Environment

- Comfortable installing and managing Python packages
- Experience working with large datasets (memory management awareness)
- Basic understanding of GPU vs CPU computing (helpful but not essential)