

Ai Learning Roadmap

Stage 1 - Ai literacy

Learn Artificial Intelligence, algorithms, models, data, automation and responsible use.

Stage 2 - Data foundations

Learn datasets, features, labels, cleaning, structured and unstructured data, privacy and data quality.

Stage 3 - Programming foundations

Learn Python, functions, debugging, testing, Git, APIs and notebooks.

Stage 4 - Machine Learning map

Compare supervised, unsupervised, semi-supervised, self-supervised and reinforcement learning.

Stage 5 - Core problem types

Practise classification, regression, clustering, dimensionality reduction, anomaly detection, forecasting and recommendation.

Stage 6 - Deep Learning and Generative Ai

Learn neural networks, CNNs, sequence models, Transformers, embeddings, LLMs, prompting and RAG.

Stage 7 - Application building

Connect a model or API with a frontend, backend, database, authentication and human-review workflow.

Stage 8 - Evaluation

Choose appropriate metrics, compare a baseline, analyse errors, test robustness and document limitations.

Stage 9 - Production

Learn deployment, model serving, monitoring, drift, retraining, latency, reliability and cost.

Stage 10 - Portfolio evidence

Publish the problem, design, implementation, evaluation, responsible-use review and lessons learned.

Progress check

- ☐ I can explain the Ai map.
- ☐ I can frame a problem before choosing a tool.
- ☐ I can select and justify a baseline.
- ☐ I can evaluate more than one metric.
- ☐ I can explain risks and limitations.
- ☐ I can show one complete project.