Frontend to AI Engineer Roadmap

2026 Edition • 6-9 Month Plan • 30h/Week

Phase	Focus	Duration	Key Outcome
1	Deep Learning Foundations	Months 1-2	3-4 DL Projects
2	MLOps & Production	Months 3-4	Cloud Deployment
3	Full-Stack Portfolio	Months 5-6	2 Killer Projects
4	Job Hunt & Prep	Months 7-9	Offers

Phase 1: Deep Learning Foundations (Months 1-2)

Goal: Master PyTorch, Computer Vision, and NLP.

Week 1-2: PyTorch Basics

- Study (15h): PyTorch '60 Minute Blitz', Tensors, Backprop.
- Code (15h): Re-implement MNIST, Feed-Forward NN from scratch.

Week 3-4: Computer Vision

- Study (15h): CNNs (ResNet), Object Detection (YOLO).
- Project: 'Real-time Face Mask Detector'.

Week 5-6: NLP

- Study (15h): Transformers, BERT, GPT basics.
- Project: Sentiment Analysis & Simple RAG bot.

Week 7-8: Generative AI

- Study (15h): Diffusion Models, LLMs.
- Project: AI Art Generator w/ Stable Diffusion API.

Phase 2: MLOps & Production (Months 3-4)

Goal: Deploy models professionally.

Week 9-10: Serving

- Backend: FastAPI + Docker.
- Optimization: ONNX export, Quantization.

Week 11-12: Cloud

- Deploy to AWS Lambda or Google Cloud Run.
- Store artifacts in S3/GCS.

Week 13-14: Pipelines

- Orchestration: Airflow/Prefect.
- Tracking: MLflow or Weights & Biases.

Week 15-16: Edge AI (Your Edge!)

- TensorFlow.js or ONNX Runtime Web.
- Project: In-browser Object Detection.

Phase 3: The Killer Portfolio (Months 5-6)

Project A: The SaaS (Weeks 17-20)

- Idea: AI-Powered Document Assistant.
- Tech: Next.js + FastAPI + LangChain + Vector DB.
- Outcome: Full-stack RAG application.

Project B: Deep Tech (Weeks 21-24)

- Idea: Industrial Safety Object Detection.
- Tech: YOLOv8 custom training + Streamlit Dashboard.
- Deployment: AWS EC2 with GPU.

Weekly Schedule Strategy

Day	Hours	Focus
Mon	3.5h	Study Theory
Tue	3.5h	Hands-on Code
Wed	3.5h	Hands-on Code
Thu	3.5h	Project Work
Fri	3.5h	Project Work
Sat	6.5h	Deep Dive
Sun	6.5h	Review + Prep