AI Engineering Projects — Learn by Building

This guide lists practical, hands-on projects to help you become a strong AI Engineer by learning through real coding. Projects are grouped by level — from beginner foundations to advanced and production-grade AI systems.

Level 1 — Core AI Foundations

- Predict Student Scores — Linear Regression, Data Cleaning, Visualization
- Iris Flower Classifier — Classification and Model Evaluation
- Stock Price Prediction — Time-Series, LSTM or GRU Networks
- Sentiment Analyzer — NLP, TF-IDF, Text Classification

Level 2 — Full AI Engineering

- AI-Powered API — Deploy models via FastAPI
- MLOps Pipeline — Automate training with MLflow, Docker, Airflow
- Data Pipeline Builder — Ingest, clean, and transform data
- Computer Vision App — Build CNN-based recognizer with OpenCV

Level 3 — Intelligent Systems

- Reinforcement Learning Game Agent — Train AI to play games
- AI Coding Assistant — Fine-tune GPT-like model for text generation
- Conversational Chatbot — Build AI that talks using Rasa or LangChain

Level 4 — Cutting Edge AI Engineering

- Neurosymbolic Reasoner — Combine neural networks with logic
- Quantum Machine Learning Model — Train hybrid classical-quantum model

Level 5 — Production-Grade AI System

- Stroud AI (Flagship Project) — Real-time data ingestion, ML strategy, API, dashboard integration

Each project teaches key engineering skills — from data handling to deploying real AI systems. Follow them in order for a complete, hands-on path toward mastery in AI Engineering.