AI PM Learning Roadmap

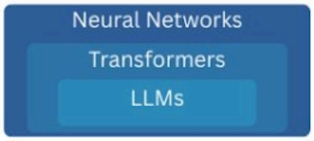
productcompass.pm

1. Basic Concepts

Machine Learning Models:

- □ Supervised Learning
- □ Unsupervised Learning
- □ Reinforcement Learning
- □ Deep Learning

Architectures:



2. Prompt Engineering

Guides:

- GPT-4.1 Prompting Guide
- Anthropic prompt eng.
- Prompt engin. by Google
- Anthropic prompt gen.
- Anthropic prompt library

Techniques:

CoT · Roles · Examples · Step-by-Step · Constraints · Chain complex prompts · Reflect · XML # · Persist

3. Fine-Tuning

Methods:

- □ Supervised (SFT)
- □ Direct Prefer. Opt. (DPO)

Tools:

- OpenAI Platform
- Hugging Face AutoTrain

Terms:

- □ Training data
- □ Validation data
- □ Epoch
- □ Batch size
- □ Learning rate
- □ Beta (for DPO)

Key Metric	What it Tells You
Training Loss ↓	The model is learning from data.
Training Accuracy ↑	Better at predicting tokens it has seen.
Validation Loss ↓	It's generalizing well to new data.
Validation Accuracy ↑	It's predicting new tokens well.

4. RAG (Retrieval-Augmented Gen.)

Vector DBs

- Weaviate
- Pinecone
- supabase

Document DBs

- OpenSearch
- elastic
- MongoDB.

Knowledge graphs

- Weaviate
- neo4j

Vector DB vs. Document DB

Use **vector store** to store embeddings and perform fast semantic search over chunks. Use **document DB** to store the full content and metadata (e.g., document url, author, date).

5. AI Agents & Agentic Workflows

n8n · crewai · Cassidy · FlowiseAI · make · LangChain · Lindy · LAMINI · LlamaIndex · LangGraph · haystack by deepset · AutoGen

Techniques:

Tool use · Model Context Protocol (MCP) · Agentic RAG · Agent2Agent Protocol (A2A) · AI Agents Architectures

6. AI Prototyping & Building

No-code first:

Lovable · Bolt · Databutton · Firebase Studio

IDE first :

Replit · v0 · Windsurf · Cursor

Other Tools (Infrastructure)

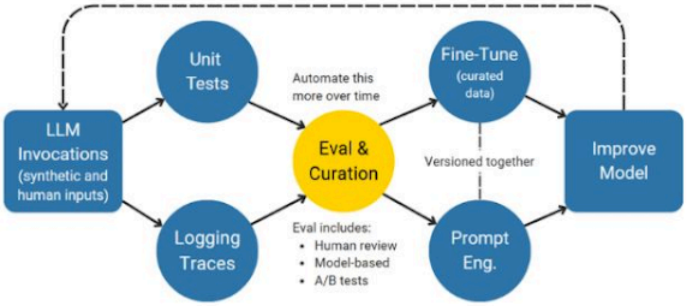
supabase · Firebase · clerk · GitHub · OpenRouter · docker · DigitalOcean · netlify · arize · Streamlit · VAPI · IIElevenLabs

7. Foundational Models

Claude · DeepSeek · Llama · Grok · ChatGPT · Qwen3 · Mistral · Gemini

8. AI Evaluation Systems

Virtuous Cycle:



> Don't rely on generic evaluation frameworks.
> Reuse your existing AI Evals infrastructure.

Techniques:

Unit Tests · LLM Judge · Human Eval · Error Analysis