

Learning Roadmap: Becoming a Context Engineer in AI/NLP

Stage 1: Foundations of AI & NLP

- ☐ Understand tokenization, embeddings, and attention
- ☐ Learn about Transformer architecture
- ☐ Study how LLMs are trained and infer responses
- ☐ Explore basic prompting techniques

Stage 2: Prompt & Context Engineering

- ☐ Practice zero-shot, one-shot, and few-shot prompting
- ☐ Use role-based and instruction-based prompting
- ☐ Learn context window management
- ☐ Understand Retrieval-Augmented Generation (RAG)
- ☐ Evaluate and iterate on prompt performance

Stage 3: Building Context-Aware Systems

- ☐ Use LangChain or LlamaIndex for context pipelines
- ☐ Work with vector databases (e.g., FAISS, Pinecone)
- ☐ Implement tool use and function calling
- ☐ Manage memory and session state
- ☐ Explore multi-agent systems

Stage 4: Advanced Context Engineering & UX

- ☐ Design human-AI interaction and UX flows
- ☐ Study safety, alignment, and ethical prompting
- ☐ Use evaluation frameworks (e.g., human feedback)
- ☐ Compare fine-tuning vs. prompt tuning