

# AI for Builders — 3 Hour Masterclass

**Goal: Understanding and Building Your First Gen AI System**

## **Module 1 (0:00 – 0:45)**

### **Introduction to Generative AI for Engineers**

- What is Generative AI vs traditional AI
- Where LLMs fit in modern systems
- Key concepts: tokens, prompts, context, embeddings
- Real-world engineering use cases

## **Module 2 (0:45 – 1:30)**

### **Python for AI + First LLM Interaction**

- Python basics for AI workflows
- Calling an LLM using API
- Understanding input → output behavior
- Controlling outputs using simple prompts

## **Module 3 (1:30 – 2:15)**

### **Introduction to RAG (Retrieval-Augmented Generation)**

- Why LLMs need external knowledge
- Basic RAG architecture
- Simple document → query → answer flow

- Common issues (irrelevant answers, missing context)

#### **Module 4 (2:15 – 2:45)**

##### **From Prompts to Structured Systems**

- Moving from simple prompts to structured prompting
- Introduction to tool use and function calling
- Concept of agents (basic understanding only)

#### **Module 5 (2:45 – 3:00)**

##### **Wrap-up: From Demo to Real Systems**

- What changes in production
- Common mistakes beginners make
- Next steps: RAG, agents, evaluation