

# GENERATIVE AI MASTERS

Professional Level LLM Application  
Development Course

Data Scientist and Mentor with more than 5 years of working experience in the field of Python, Machine Learning, Deep Learning, MLOps, Generative AI, and Robotics systems. Hands-on experience on Classification, Regression, Clustering, Computer vision, Natural language processing, and Transfer learning models to solve challenging business problems.



# BOKTIAR AHMED BAPPY

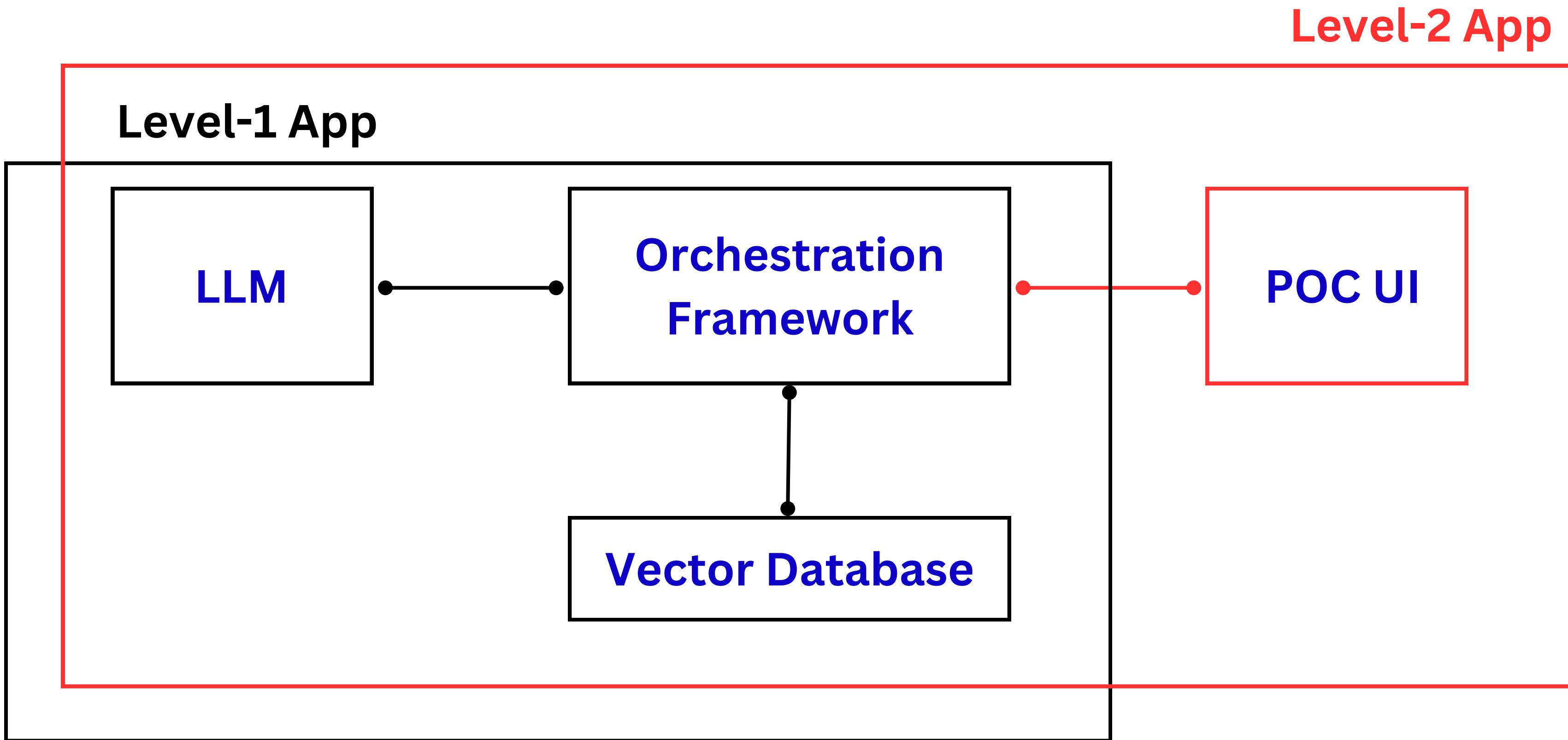
 @boktiarahmed73

 @dswithbappy

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# BASIC ARCHITECTURE OVERVIEW FOR GEN AI APPLICATIONS

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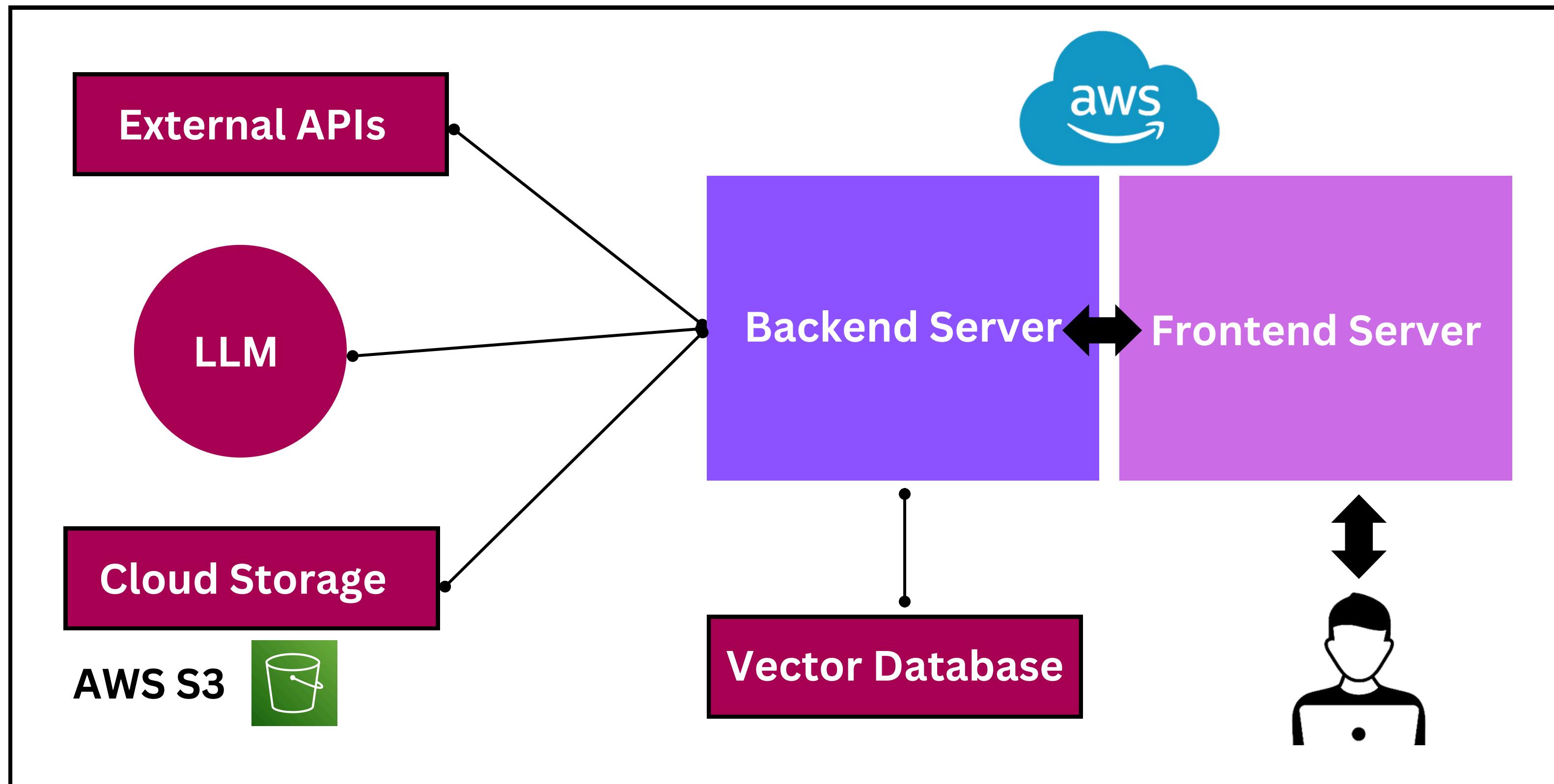
# ADVANCED GEN AI APPLICATION ARCHITECTURES

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- Frontend Framework and server
- Backend Framework and server
- External APIs
- Cloud storage
- Vector Database
- LLMOps integration

# ADVANCED GEN AI APPLICATION ARCHITECTURES

## Level-3 Professional App



# PREVIEW OF A PROFESSIONAL GEN AI APPLICATION

# **SELECTING THE RIGHT FOUNDATION LLMS**

# TOOL STACK FOR GEN AI APPLICATIONS

# ORCHESTRATION FRAMEWORKS FOR SCALABLE SOLUTIONS

# LANGCHAIN: OVERVIEW, EVOLUTION, AND LEARNING PATH

**CONNECTING WITH LEADING  
LLMS (OPENAI'S GPT-4,  
GPT-40 MINI, AND OPEN  
SOURCE MODELS LIKE  
LLAMA3 AND MISTRAL )**

# PROMPT TEMPLATES FOR INTEGRATING LOGIC INTO LLM INTERACTIONS

# CHAINS FOR SEQUENCING INSTRUCTIONS

# OUTPUT PARSERS FOR RESPONSE FORMATTING

# WORKING WITH CUSTOM DATA ( DATA LOADERS ) & RAG BASIC CONCEPTS

DIFFERENT RAG COMPONENTS  
LIKE ( SPLITTERS,  
EMBEDDINGS, VECTOR  
STORES, RETRIEVERS, TOP K )

# **BASIC RAG IMPLEMENTATION WITH LCEL**

# **MEMORY MANAGEMENT IN LANGCHAIN: TEMPORARY AND PERMANENT MEMORY**

# INTRODUCTION TO LANGCHAIN EXPRESSION LANGUAGE ( LCEL ) - CHAINS AND RUNNABLES

# BUILT-IN RUNNABLES IN LCEL

# COMPREHENSIVE OVERVIEW OF THE LANGCHAIN ECOSYSTEM

# LANGSERVE DEMO

# LANGSMITH DEMO

# LANGGRAPH DEMO

# LEVEL 1 APPLICATION DEVELOPMENT

# INTRODUCTION TO LLAMAINDEX

# INTRODUCTION TO LLMOPS

LLMOPS, OR LARGE LANGUAGE MODEL OPERATIONS, REFERS TO THE PRACTICES AND PROCESSES INVOLVED IN MANAGING AND OPERATING LARGE LANGUAGE MODELS (LLMs).

# MULTIMODAL GEN AI APPLICATIONS