# Krishna Chaitanya Kavali GenAI developer | Python developer

chaitanya2327@gmail.com 7893382909 LinkedIn Github GoogleDEV Portfolio

## PROFILE

Strategic Software Developer specializing in the design and deployment of autonomous **Agentic AI** systems and advanced **Hybrid RAG** architectures. Expert in orchestrating multi-agent workflows using **LangGraph** and **LlamaIndex**, with a deep focus on **MCP** and **A2A** communication protocols for tool-enabled automation. Proven track record in building high-performance mobile applications (Flutter/Android) and transforming complex data—from reverse-engineered files to dynamic **Knowledge Graphs**—into generative insights across AWS, Azure, and GCP ecosystems.
**Total years of EXP: 3y 8m**

## SKILLS

**LLM Frameworks** — Langchain, Langgraph, LlamaIndex

**Programming Language** — Python, Dart, Java

**Generative AI** — RAG, Graph RAG, Hybrid RAG, Multi-modal LLMs, Prompt Engineering

**Agentic AI** — MCP (Model Context Protocol), A2A (Agent-to-Agent communication), Autonomous Multi-Agent Workflows, State Management, Tool-use

**Models used** — **AWS:** Amazon Titan Text Premier and Amazon Titan Embed | **Azure:** Azure OpenAI (GPT) and Text-Embedding-3-ada | **GCP:** Vertex AI and Vertex Text Embeddings | **GitHub:** Workspace agents

**Framework** — FastMCP, FastAPI (Pydantic), Flask

**Database** — MongoDB, Neo4j Graph DB, Falkor Graph DB, RedisStack(Vector DB), Neptune(AWS), Firestore

**Application Development** — Flutter, Android Studio

**Tools/Infra** — Docker, Kubernetes

## PROFESSIONAL EXPERIENCE

**Advanced App Engineering Senior Analyst,** *Accenture* 09/2022 – Present

- **AGENTIC ORCHESTRATION PLATFORM**
  Designed and implemented a distributed **Agent-to-Agent (A2A) orchestration framework** where all agents are remote A2A agents dynamically selected based on use case complexity. The system eliminates tightly coupled internal agents and instead coordinates specialized remote agents through structured orchestration logic.
  - **Orchestration Logic:** Built a stateful multi-agent workflow using **LangGraph**, where the orchestrator dynamically selects appropriate remote A2A agents based on task intent, context, and execution requirements. Supports cyclic reasoning, conditional routing, and multi-step delegation.
  - Dynamic Agent Selection: Engineered logic to fetch and instantiate agents from an external A2A Agent Registry, enabling use-case–driven agent selection rather than predefined internal agent pipelines.
  - Dynamic MCP Tool Picking: Implemented Model Context Protocol (MCP) integration allowing each remote agent to autonomously discover and invoke required tools at runtime. Tools are not pre-bound — agents dynamically select MCP tools based on reasoning needs.
  - Agentic Reasoning Framework: Applied advanced patterns such as ReAct and Plan-Execute loops, enabling iterative tool invocation, cross-agent collaboration, and autonomous recovery within distributed agent workflows.
  - Technologies Used: LangGraph, MCP, Agentic AI, LLMs, A2A Orchestration.

- **HYBRID GRAPH-VECTOR RETRIEVAL SYSTEM**
  Architected a hybrid Retrieval-Augmented Generation (RAG) framework that integrates GraphRAG and Vector RAG to deliver high-precision semantic search and contextually aware generation. By constructing dynamic Knowledge Graphs within a graph database, the system enables a unified search pipeline that merges structural relationship mapping with vector similarity scoring. This approach leverages LlamaIndex and LangChain to orchestrate complex graph querying and automated Cypher generation, streamlining the transition from multi-hop data retrieval to sophisticated generative reasoning
  - **Graph Analytics & Community Detection:** Applied community detection algorithms on graph data to identify semantically related clusters, improving contextual retrieval accuracy and enhancing multi-hop reasoning performance.
  - Created **dynamic knowledge graphs** and stored embeddings on nodes for unified graph + vector retrieval.
  - Designed hybrid search that combines graph filters and vector similarity for high-precision RAG.
  - Technologies Used: LLMs, LangChain,LlamaIndex, GenAI, FalkorDB, Neo4j

- **REVERSE ENGINEERING POWERED BY GEN AI**
  Innovative tool that empowers users to reverse engineer files, creating comprehensive knowledge graphs and wikis. Integrated LLM capabilities further enhance the process by pinpointing code defects, ensuring both structural clarity and high-quality output
  - **Leveraged LLMs** to create and optimize dynamic graphs for deeper insights into application issues.
  - **Integrated Flask routes** to support Root Cause Analysis (RCA) and to read data from graphDB then to render graphs on UI.
  - Utilized RedisGraph for efficient data storage, retrieval, and manipulation.
  - Technologies Used: Python, Redis, LLMs, GenAI, FalkorDB, Neo4j

## PERSONAL PROJECTS

**SPLIT EXPENSE** 12/2025 – 01/2026

Built a full-stack **expense splitting application** using **Flutter** for cross-platform mobile and web, backed by **Firebase Authentication** and **Cloud Firestore** for real-time data sync and secure user management. Implemented **Google Sign-In**, group creation, member management, and real-time shared expense tracking with automatic balance calculation. Enabled **smart settlement suggestions** and intuitive interfaces for adding, splitting, and deleting shared expenses across friends and groups. Demonstrates expertise in **state management (Provider)**, cloud backend integration, and responsive UI design.

**BLOODLINE FAMILY TREE CREATOR** 06/2021 – 08/2022

Contributed to the Flutter implementation of a family tree application enabling visualization of hierarchical relationships with dynamic main tree and partial tree views. Implemented a **Relation Finder** feature to compute and display relationships between any two selected members. Integrated an **Events module** to track birthdays and timeline-based family events. Focused on responsive UI design, navigation workflows, and structured data handling for interactive tree rendering.

**ENCRYPT AND DECRYPT DATA** 02/2020 – 03/2020

Developed a cross-platform mobile application using **Flutter (Dart)** to securely encrypt and decrypt text using **AES-256 encryption**. Implemented secure key handling with a 32-byte key derivation and random Initialization Vector (IV) generation. Enabled Base64 encoding for encrypted outputs to ensure compatibility and safe transmission. Designed a clean, user-friendly UI with separate encryption and decryption workflows. Integrated clipboard functionality and real-time feedback using SnackBars for improved UX.

## EDUCATION

**Bharath University,** *B.Tech* 07/2018 – 05/2022 | Chennai, India

Computer Science and Engineering - 80.0%

## CERTIFICATES

MongoDB SI Associate Certification

Microsoft: Accelerate app development

Game Development using PyGame

Face Recognition Application

AI for India

## AWARDS

**SKILLS STAR,** *Accenture*

**Wall of Fame,** *Accenture*

**ACE,** *Accenture*

## LANGUAGES

English | Telugu | Hindi | Tamil