

# Naga Hanuma Kanchumati

Backend / GenAI Engineer

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## Professional Summary

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Backend engineer with 2+ years of experience building and modifying enterprise-grade APIs using Python and FastAPI, primarily in banking and government domains. Strong exposure to secure backend development, API validations, SQL optimization, and production support. Recently focused on GenAI applications, including RAG-based chatbots using local and cloud LLMs. Skilled at taking GenAI ideas from prototype to deployable backend services while following secure coding practices.

## Technical Skills

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- **Languages:** Python
- **Backend Frameworks:** FastAPI, REST APIs
- **GenAI:** RAG, LangChain (basic), Ollama
- **Databases:** SQL
- **Tools & Practices:** Git, Docker (basic), secure coding (input validation, parameterized queries)

## Work Experience

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**Software Engineer — Tata Consultancy Services (TCS)** Aug 2023 – Present

**Project 1: OpenG2P Implementation (Digital Public Infrastructure)**

- Cloned and set up the OpenG2P backend application from the official GitHub repository.
- Modified existing APIs by updating request and response schemas based on client requirements.
- Added API-level validations and response restructuring within a large enterprise codebase.
- Supported applications deployed on on-premise infrastructure using Docker-based setups.
- **Tech Stack:** Python, FastAPI, REST APIs

**Project 2: RAG-Based Chatbot for FASTag Application**

- Independently designed and developed a Retrieval-Augmented Generation (RAG) chatbot as an internal initiative.
- Built backend APIs from scratch using FastAPI to handle chatbot requests.
- Implemented document ingestion, embedding generation, vector storage, and context retrieval for LLM-based responses.
- Experimented with local LLMs using Ollama and LangChain for embeddings and retrieval.
- Evaluated Azure-hosted LLM APIs for response quality and latency.

## Internship Experience

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**Data & Software Engineering Intern — Jio Platforms Limited** Aug 2022 – Jul 2023

- Performed data cleaning and preprocessing by handling missing values and duplicates.
- Prepared datasets for time-series analysis and cloud cost prediction.
- Assisted in analyzing cloud usage across AWS, Azure, and GCP, displayed on dashboards.
- Worked as a manual frontend tester and fixed basic backend issues such as validations and response formatting.

## Education

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**Bachelor of Technology (B.Tech) — Computer Science**

K L University

2023

## Projects & Learning

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- Hands-on experimentation with GenAI tools and frameworks.
- Explored multiple architectural approaches for RAG-based systems using local and cloud LLMs.
- Focused on production-oriented backend and GenAI integration.