

# Narendrababu S

## Senior Software Engineer

Highly skilled Senior Software Engineer with over 9 years of experience in Python backend development across Media, Banking, and Identity Security domains . Specialised in architecting scalable AI-driven backends, managing multi-agent orchestrations, and deploying production-grade LLM applications (Agentic RAG) . Proven track record designing high-throughput, low-latency applications using Python (FastAPI/Flask), AWS services, and Kubernetes (EKS) infrastructure . Expert in Low-Level Design (LLD) and system architecture redesigns that optimise cloud costs and elevate user experience by maximising scalability, availability, reliability, and maintainability.



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## SKILLS

Python Programming

Agentic AI

RAG

MongoDB

PostgreSQL

FastAPI

kubernetes

LangGraph

LangChain

MLFLOW

Celery

Pandas and Pyspark

AWS API Gateway, Lambda, Step Functions, Glue, Athena,SQS,SNS, S3

AWS BedRock

AWS DynamoDB

Rest API

MongoDB

Redis/Memcache

Kafka/RabbitMQ

Agile, JIRA, GIT, Confluence

sqlalchemy

Docker

SQL

Numpy, Pandas

## WORK EXPERIENCE

### Senior Software Engineer

#### @CyberArk | Palo Alto Networks

10/2023 - Present

Hyderabad, India

##### Achievements/Tasks

- Developed a sophisticated identity security solution for AWS, Azure, and GCP, implementing Just-in-Time (JIT) and Just Enough Access (JEA) strategies, which improved access control precision and addressed complex security challenges.
- Designed scalable low-level and high-level architectures, enhancing system availability and performance through strategic decision-making and rigorous trade-off analysis.
- Engineered serverless applications using the Serverless Framework, achieving rapid deployment and resource optimisation.
- Created secure REST APIs following best practices, utilizing AWS HTTP Lambda for robust and scalable deployments, which improved system reliability.
- Implemented Test-Driven Development (TDD) practices, resulting in a significant reduction in bugs and improved code quality.
- Skilled in optimising code for efficient resource usage through techniques like multithreading and async I/O, ensuring high performance while minimising costs.
- Built an advanced RAG system using modern embedding models to convert text into vectors. Designed a smart chunking strategy to break down documents cleanly and stored the data in a vector database for fast, accurate search retrieval.
- Built autonomous AI agents that can break down complex user requests, call external backend APIs when needed, and execute multi-step tasks on their own.
- Implemented security guardrail layers to inspect both user inputs and model outputs. This blocked prompt injections, prevented data leaks, and ensured the AI system followed safety guidelines.
- Built safe boundaries for autonomous agents using LangGraph and Pydantic schemas. Managed agent state tightly to prevent unauthorised API calls, while tracking context sizes.

### Senior Software Engineer

#### @LTMindtree

07/2022 - 10/2023

Hyderabad, India

##### Achievements/Tasks

- Led the development of a KYC application, enhancing data collection and KYC completion through effective customer outreach strategies.
- Transformed legacy endpoints into high-performance REST APIs using FastAPI and serverless micro-backends, applying rigorous Low-Level Design (LLD) principles, object-oriented patterns, and AsyncIO to boost system availability and reliability .
- Designed and implemented secure token-based authentication and authorization mechanisms using JWT and OAuth2 protocols to protect distributed microservices across containerized environments.
- Designed event-driven microservices using FastAPI and distributed pub/sub channels, enabling asynchronous background processing to handle traffic spikes smoothly while maintaining strict service isolation.
- Established asynchronous message queues with SQS, enhancing system communication and performance.
- Integrated caching layers using Redis to minimize database load and improve API response times.
- Applied code optimization techniques, including Asynchronous IO and multiprocessing.
- Employed pytest for test-driven development, ensuring robust testing and higher code reliability.
- Led key backend team initiatives, offering technical guidance during project phases.
- Implemented secure coding practices in line with OWASP guidelines, enhancing application security.

## LANGUAGES

English  
*Full Professional Proficiency*

Kannada  
*Native or Bilingual Proficiency*

Telugu  
*Professional Working Proficiency*

Hindi  
*Limited Working Proficiency*

## EDUCATION

Master of Technology from  
Bits Pilani, Hyderabad  
(2019 - 2021)

Bachelor of Engineering  
from Dayananda Sagar  
Institutions, Bengaluru  
(2012 - 2016)

## WORK EXPERIENCE

### Senior Software Engineer @ GlobalLogic

09/2021 - 07/2022

Hyderabad, India

#### Achievements/Tasks

- ▣ Developed backend services for an MLOps web application using Flask, implementing scalable REST APIs with robust data validation using Marshmallow.
- ▣ Integrated SQLAlchemy for efficient ORM-based data modeling and database operations.
- ▣ Utilized the Kubernetes Python SDK to interact with deployed pods and containers for workflow automation and system orchestration.
- ▣ Load tested microservices to find hidden memory leaks and high CPU usage, optimising the code to make the application run faster and use fewer resources.
- ▣ Implemented end-to-end monitoring and metrics analysis for Kubernetes workloads using Prometheus for data collection and Grafana for visualisation and alerting.
- ▣ Enforced security best practices by aligning development with OWASP guidelines and implementing secure coding standards.

### Software Engineer @ Accenture

01/2017 - 09/2021

Hyderabad, India

#### Achievements/Tasks

- ▣ Worked on process automation with python programming.
- ▣ Worked on data transformations with a custom logic written in python pandas and numpy.
- ▣ Implemented REST API's using Flask.
- ▣ Worked on legacy MS access app with VB scripting.
- ▣ Worked on SQL DB, monitoring the hardware utilization spikes.