Adithya Swarna

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Summary

Software Engineer with 3+ years of experience designing scalable backend systems, automating operations, and building AI-powered solutions. Proficient in Python, distributed systems, AWS cloud services, and ML/NLP pipelines. Skilled in system design, microservices architecture, and full-stack development with Node.js and React.js (Basics). Passionate about delivering clean, efficient, and production-ready code to solve real-world problems at scale.

Skills

Programming Languages:	Python, C, PLSQL, JavaScript, CUDA C, Go (Basics), HTML, CSS, Bash
Core CS:	Object-Oriented Programming, Data Structures, Algorithms, Problem Solving
AI/ML:	Machine Learning, NLP, RAG, AI Agents
Testing Tools:	Selenium, Postman, JUnit
Frameworks/Libraries:	Flask, Selenium, scikit-learn, NumPy, Pandas, Plotly, Node.js (Basics), React.js (Basics)
Cloud Platforms, Architectures:	AWS, GCP (Basics), OCI, Monolithic, Microservices, Distributed Systems
Version Control, CI/CD, DevOps:	Docker, Kubernetes (Basics), Git, GitHub, (CI/CD Pipelines)
Databases:	MongoDB, SQL (PL/SQL), Oracle Database, DynamoDB
Other Tools:	MS Office, Cadence, MATLAB, LabVIEW, Proteus, Arduino

Work Experience & Projects

Software Engineer - Techtapp - Remote, USA **January 2025 – Present**

- Took ownership of critical backend services built with Python, Node.js, and AWS, improving system scalability and fault tolerance.
- Built customer-focused REST APIs and modular microservices, enhancing product agility and enabling faster feature rollouts.
- Reduced deployment time by 30% by designing CI/CD pipelines with GitHub Actions and Docker, raising the bar for dev workflow.
- Collaborated with frontend developers to integrate backend logic into React.js interfaces, accelerating delivery of cross-functional features. Delivered robust, production-ready solutions under tight deadlines in a high-velocity startup environment.

Software / IT Support (Student Assistant IV) - University of California Riverside - Riverside, USA **March 2024 – March 2025**

- Developed Python and Bash scripts to automate internal IT processes, enhancing operational efficiency.
- Provided system support across Windows, macOS, and Linux environments.
- Assisted with infrastructure maintenance, scripting, and process optimization.

Systems Software Engineer - Tata Consultancy Services (TCS) - Hyderabad, India **January 2021 – July 2023 (2 Years 7 Months)**

- Took full ownership of automating HR workflows with Python scripts, reducing manual processing time by 40% and improving operational accuracy.
- Raised the bar by optimizing SQL queries for large-scale Oracle HCM systems, reducing latency and improving report response times.
- Integrated REST APIs to streamline data exchange between Oracle HCM and third-party platforms, enhancing cross-system reliability.
- Led performance tuning initiatives in high-traffic modules, directly impacting system responsiveness during peak load hours.
- Collaborated with cross-functional teams to support production deployments & deliver client-facing solutions under aggressive timelines.
- Rapidly upskilled in Oracle HCM and delivered business-critical enhancements with minimal supervision.

Retrieval-Augmented Generation (RAG) Pipeline (GitHub): Built a scalable RAG system for document summarization and QA using Python, Flask, Chroma DB, and FAISS; optimized for large-scale processing.
AI Agent Builder (In Progress): Developing a scalable AI Agent system using Python, FastAPI, PostgreSQL, and Redis; Dockerized services with CI/CD pipelines, enabling dynamic agent generation and autonomous task execution with LLM integration.
YouTube Timestamps Jumper – Chrome Extension (GitHub): Developed an extension to bookmark, jump to, and loop specific video timestamps using JavaScript and persistent storage.
Python & Selenium Automation – Web Scraping and System Tasks: Automated repetitive tasks using Python and Selenium; built dashboards using Flask and MongoDB for data storage.
Full Swing 8x8 XOR CAM (IEEE Published): Designed a low-power XOR-based CAM in Cadence gpdk180 with a 20ns search delay; optimized SRAM design and reduced pre-charge logic.
Conway's Game of Life: Simulated Conway's Game of Life using Python (NumPy) and parallelized computations with CUDA C for high-speed execution.
SpaceX Rocket Landing Prediction – ML Model: Built ML models with 87% accuracy for landing predictions using scikit-learn and SQL; performed feature engineering and visualization.
Financial Data Analysis & LLM Research: Created interactive dashboards for financial datasets; conducted an independent study on mobile LLM implementations.

Education

MS in Computer Science & Engineering, University of California-Riverside (3.8 / 4.0) **09/2023 - 03/2025**
B. Tech in Electronics & Communication Engineering, JNTU, Hyderabad (8.48 / 10.0) **09/2016 - 09/2020**

Certifications: IBM Data Science on Coursera, Programming for Everybody, Python Data Structures, Using Python to Access Web Data, Using Databases with Python.