SELVA GANESH V | Software Engineer | Data Engineer

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PROFESSIONAL SUMMARY

◆ **AWS Cloud Developer** experienced in building scalable, serverless applications using **Lambda, API Gateway, S3, RDS, and DynamoDB;** proficient in **event-driven design and Docker-based deployments.**

◆ Delivered **30% faster APIs and 40% improved query performance** by optimizing backend logic and SQL

◆ Focused on **security and observability,** implementing **Splunk-based monitoring, DevSecOps best practices,** and building **resilient, high-availability systems** on AWS**.**

TECHNICAL SKILLS

◆ **Languages & Frameworks:** Python, SQL, Terraform, GraphQL, Flask, OOPs

◆ **Cloud & Tools:** AWS (Lambda, S3, SQS, SNS, Step Functions, API Gateway, Amazon SES), GitLab, Amazon Q developer AI agent, Docker

◆ **Database & ORM:** PostgreSQL, SQLAlchemy

◆ **Monitoring & Logging:** Splunk, Jira

◆ **Testing:** PyTest, Unit Testing

◆ **Others:** NumPy, Pandas, Excel, Cron Jobs, Microservices, Prompt Engineering

PROFESSIONAL EXPERIENCE

Software Engineer

IDP Education | Chennai | *Jun 2024 – Present*

◆ Designed and implemented an **event-driven document upload workflow** using **AWS Lambda**, **SQS**, and **SNS** to enable asynchronous and scalable service communication.

◆ **Migrated workloads from x86_64 to ARM64**, achieving significant **cost savings** and **performance improvements** across multiple Lambda functions.

◆ Built efficient **Docker-based local Lambda environments**, eliminating reliance on the AWS Dev Console and enabling **local-first development**; delivered a **cost-saving POC** that improved **team-wide productivity** and **reduced cloud execution overhead**.

- Developed a robust **Python utility** to dynamically generate **PostgreSQL UPSERT scripts**, automating partner addition and reducing manual overhead.

- Integrated **Splunk dashboards** to enable **real-time monitoring**, early anomaly detection, and faster incident response.

- Delivered **feature demos and knowledge-sharing sessions** to internal product teams, promoting collaboration and visibility of new capabilities.

Project Trainee

IDP Education | Chennai | *Dec 2022 – Jun 2023*

- **Developed core backend logic** in a 3-member team for the *Pharmacy Management* project using **AWS Lambda** to handle GET, PUT, and POST API operations, interfacing with **PostgreSQL** for data retrieval, insertion, and updates.

- **Authored internal best practice guides** based on completed project experiences to enhance maintainability and support onboarding within the organization.

- **Built unit tests with mocked responses** to validate Lambda functions, ensuring high code coverage and a deep understanding of event-driven workflows.

- **Designed and orchestrated student application workflows** using **AWS Step Functions**, improving process visibility and operational efficiency.

- **Optimized database queries** by indexing high-impact columns, reducing execution time and improving application responsiveness by up to 40%.

- **Documented RESTful APIs using Swagger** to support contract-first development and facilitate cross-team integration.

KEY ACHIEVEMENTS

- 🏆 **Star Performer Award** – Recognized for technical excellence and contributions in COP sessions.

- 🔐 **Resolved Snyk Vulnerability** – Addressed critical vulnerabilities across SES repositories.

- 🚀 **Zero Downtime Deployment** – Implemented versioning in S3 files to eliminate deployment downtime.

PROJECTS

📘 Book and Bill – Event Packaging & Booking System

A backend platform that allows *universities/institutions* to **purchase bundled event packages with *dynamic discounts and early bird offers***.

Built using *AWS Lambda*, *API Gateway*, *S3*, and *PostgreSQL*.

Key Contributions:

◆ Developed core *Python* logic for booking lifecycle for packages, booking end point and proposal document upload flow in S3

◆ Automated *version control* for terms & conditions using a script that pulls the latest file from *S3*, and optimized complex queries with *Pandas* (38s → 2s).

🎓 Student Essentials – Student Support Ecosystem for IDP Universities

A microservices-based solution **offering essential services (*SIM cards, accommodation, forex*) to students onboarding for IDP-partnered universities**.

Built with *AWS Lambda*, *GraphQL*, *Terraform*, and *PostgreSQL*, ensuring *NIST security compliance*.

Key Contributions:

◆ Presented *AWS Lambda SnapStart* at COP; implemented *Terraform*-based schema validation and achieved *90%+ test coverage* using *pytest*.

◆ Fixed critical *Snyk vulnerabilities*, contributed to *GraphQL* stories, expanded partner integration (e.g., *Casita, ICICI*), and initiated *Splunk* error monitoring.

EDUCATION

B.E. Electronics and Communication Engineering
Vel Tech Multi Tech Engineering College | 2019 – 2023 | *84.5%*

HSC – AVM Meiyappan Higher Secondary School | 2019 | *89.5%*
SSLC – Janaki Ramachandran Matriculation School | 2017 | *95.4%*

CERTIFICATIONS

- **Workato Automation Pro I** – Workato (Mar 2025)

- **SQL Practice: Intermediate Queries** – LinkedIn (Jan 2025)

- **ETL in Python and SQL** – LinkedIn (Sep 2024)

- **Introduction to FinOps** – FinOps (Feb 2025)