SONUPATEL A L

19358sonupatel@gmail.com | +91 8861220135 | Bengaluru

Education

PES UNIVERSITY | B. Tech in Computer Science — *Bengaluru, India*

Cumulative GPA: 7.92/10.0

Relevant Coursework: Data Structures and Algorithms; Software Engineering; Operating Systems; Computer Networks, Database Management System; Software Engineering Fundamentals

Experience

Flexera — *Bangalore, India*

Software Development Engineer (SDE) — *Aug 2025 – present*

- Designed and developed a Go-based **high-availability** service for **PostgreSQL** on on-premises Windows and Linux virtual machines, improving **fault tolerance**, reducing **downtime**, and increasing **availability**.
- Built an agent for automated **failover** and **failback** using the **Raft** consensus algorithm to manage **active-standby PostgreSQL clusters**, reducing manual intervention and minimizing downtime.
- Implemented server-side **load balancing** using **NGINX** (Windows) and **HAProxy** (Linux) to distribute traffic across servers, improving fault tolerance and service availability.
- Integrated **PgBouncer** for PostgreSQL connection pooling and management, reducing connection overhead and improving database scalability under high-concurrency workloads.
- Collaborated with cross-functional engineering teams to design, develop, and validate PostgreSQL high-availability and disaster recovery solutions.
- Developed a **Windows service in Go (Golang)** to collect system/application metadata and transmit it to a **Spring Boot** backend via **Windows Named Pipes** for low-latency inter-process communication (IPC).
- Implemented **reliable IPC** with connection lifecycle management, buffered reads/writes, and structured error handling/retries, improving the stability and observability of the metadata pipeline.

Ribbon Communications — *Bangalore, India*

Software Development Engineer (SDE) Intern — *Apr 2025 – Jul 2025*

- Contributed to implementing **geographically redundant** systems on **AWS** public cloud infrastructure, improving overall system availability and fault tolerance through a distributed architecture.

Projects

Departmental Store Database Management — *Sept 2023 – Nov 2023*

- Designed and developed a **RESTful API** using **Node.js** and **Express.js** to efficiently manage user data for a departmental store.
- Implemented secure **user authentication and registration** processes, ensuring data privacy and protection.
- Integrated **PostgreSQL** for robust and scalable data storage, optimizing database queries for improved performance.

Metro Ticketing System – A Microservices-Based Solution — *Jan 2025 – Mar 2025*

- Designed and implemented a microservices-based metro ticketing system, leveraging Java, **Spring Boot**, **Kafka**, and **Redis** for seamless operations across stations, users, payments, and notifications.
- Developed a scalable payment service with real-time penalty and peak-hour fare adjustments, integrating Kafka for **event-driven** transaction processing and Redis caching for optimized performance.
- Built **Docker images** and **containerized** all microservices, orchestrating multi-container deployments using **Docker Compose**, simplifying local setup and reducing environment configuration issues.

Task Management Application and Raft Consensus Algorithm *Feb 2024 – Apr 2024*

- Designed and developed a **distributed task management application** using the **Raft consensus algorithm** to ensure consistency and fault tolerance across multiple nodes.
- Implemented a **MySQL backend database** for efficient storage and retrieval of task data.
- Created a user-friendly interface to enable seamless **CRUD operations** on tasks, ensuring reliability and scalability in distributed environments.

Skills

- Programming: Java, Go, C++, Python, HTML/CSS/JavaScript. | Frameworks & Libraries: MERN stack (MongoDB, Express.js, React, Node.js), Spring Boot, TensorFlow, PyTorch, scikit-learn | Data Analytics & Big Data: Spark, SQL
- Infrastructure & Platforms: Docker, NGINX, HAProxy
- Tools/Applications: Git, Jupyter, MySQL, PostgreSQL

Links

LinkedIn | Github | Credly | Kaggle | Twitter | LeetCode | CodeChef | HackerRank | GeeksForGeeks