Sapan Reddy Kanamathareddy

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PROFESSIONAL EXPERIENCE

Software Developer Intern at Camber, Inc.
Edison, NJ (Sep. 2025 - Present)

- Developing **backend automation** and **data migration** solutions across **SAP HANA** and **PostgreSQL**, using **Python**, and **OData** services to streamline supply chain processes and ensure **robust, high-integrity data operations.**

Software Engineer III at Zemoso Technologies
Hyderabad, IN (Mar. 2021 - Dec. 2023)

- Redesigned and implemented a **headless iframe-based SDK architecture** using **Vanilla JavaScript**, the **postMessage API**, and **modular bundling**, replacing a legacy **event-driven** system, significantly improving **integration isolation, cross-domain communication,** and enabled **scalable SDK adoption** across multiple client platforms.
- Developed scalable **backend APIs** using **Spring Boot** and **Java**, including **RESTful service**s for **data ingestion, authorization, and async processing queues**, achieving **low-latency performance** and supporting **thousands of concurrent requests** with **PostgreSQL** and **Redis** integration.
- Refactored the **SDK startup lifecycle**, optimizing **runtime initialization** and integrating **structured logging** via **Graylog**, which **reduced load latency** by **30%** and improved **observability** and **root-cause analysis** in a multi-tenant production environment.
- Reduced SDK **bundle size by 44%** (from **258KB to 114KB**) by eliminating jQuery, refactoring to **native JavaScript**, and offloading static assets to a **CDN**, resulting in **faster load times**, better **Core Web Vitals**, and increased **successful client integrations**.
- Built high-throughput **bulk-processing APIs** in **Spring Boot** and **Ruby on Rails** for **S3-based file ingestion** and **transactional writes**, designed for **concurrent execution**, and extended for seamless **third-party system integration**, enabling **batch processing of millions of records daily**.
- Modernized a large **ReactJS** codebase by migrating **100+ components** to **TypeScript**, resolving **over 10 memory leaks**, enforcing **strict prop types**, and improving **developer experience** and **code reliability** across a multi-developer UI codebase.
- Designed and deployed **advanced search endpoints** with **hierarchical filters**, **pagination**, and child-table constraints using **Spring Data JPA, ActiveRecord**, and custom query builders, enabling **fast, multi-dimensional** querying over complex **relational datasets**.
- Improved **frontend workflow performance** by **10x (from 60s to 6s)** by implementing **localStorage-based caching, selective data hydration,** and optimizing **React component lifecycle**, significantly enhancing UX responsiveness and **reducing API load**.
- Contributed to **micro-frontend migration** using **Webpack Module Federation**, decomposing a monolithic UI into **independently deployable modules**, which improved **release velocity, feature ownership**, and **cross-team collaboration**.
- Implemented **end-to-end testing** infrastructure using **Cypress, Jest,** and **JUnit**, achieving **90%+ coverage** on critical workflows and contract tests, reducing regression incidents by **40%**, and enabling **faster, safer deployments** through **CI/CD**.

Founding Software Engineer at Smart Campus Connect
Hyderabad, IN (Jan. 2019 - Jan. 2021)

- Designed and implemented robust **JWT-based authentication** using **Spring Security**, with **multi-tenant RBAC** and **Attribute-Based Access Control (ABAC)** — enabling **dynamic, tenant-scoped** access controls and reducing **privilege escalations by 60%** across users, teams, and institutions.
- Implemented **isolated-schema multi-tenancy** in **PostgreSQL** with **Liquibase migrations**, securely supporting **onboarding and configuration for 25+ institutions**, improving data isolation and simplifying **tenant-specific deployments and upgrades**.
- Built a **Spring Batch pipeline** for **CRM** data ingestion and migration from **legacy systems**, incorporating **resumability** and **data validation** — reducing **client onboarding time by 50%** and minimizing **manual intervention and data inconsistency issues.**
- Developed fully automated **CI/CD pipelines** with **GitHub Actions**, including artifact versioning, build verification, and **zero-downtime deployments** — resulting in a **3x increase** in **release velocity** and **90% reduction in deployment-related failures**.
- Led backend **performance tuning** by optimizing **JPA queries** and implementing **Caffeine caching**, which **reduced average API response times by 45%** and significantly improved **system stability under peak load conditions.**

SKILLS

Languages: JavaScript, Typescript, HTML/CSS, SQL, Java, Ruby, Python
Libraries/Frameworks: Spring Boot, Node.js, ReactJS, Ruby on Rails, Next.js, Three.js, GLSL, Cypress, Jest, Junit, Yalc
Utilities/Skills: Amazon Web Services(AWS), Git, Github Actions, Vim, Latex, SSH, GNU core utils, Bash scripting, SonarQube, Jenkins, Selenium Automation, Checkmarx, Fossa, Jfrog, GCP
Databases: MySQL, Postgres, NoSql, MongoDB, Redis
Other: OData, Test Driven Development, Agile, A/B Testing, Jira, Microservices, Monolith, CI/CD, Server-Side Rendering (SSR)

PROJECTS

Skyflow ↗

Skyflow is a data protection platform prioritizing privacy and security. It offers data tokenization, secure data sharing, compliance features, and a developer-friendly API. With Skyflow, organizations can safeguard sensitive data, maintain regulatory compliance, and enable secure data sharing, all while empowering developers to work efficiently. (Client, via Zemoso Technologies)

Strateos ↗

The world's first R&D Cloud Automation Platform for faster scientific discoveries available to conduct experiments remotely or command and control your own facilities. Remote control and automated cloud labs that are accessible from a web browser enable scientists around the world to easily access and control new technologies, drug discovery, cell and gene therapy, and synthetic biology workflows. (Client, via Zemoso Technologies)

TriNethra ↗

The Chatbot uses Natural Language Processing to detect the Intent of the user to register crime to BPRD India. The back end is privileged by features such as user role access, PDF generation, automatic mailing issues, and support for voice memos, which are accessible in 21 regional languages.

DripM

The cross-platform mobile application connected to the product prototype can monitor and control the IV flow in healthcare institutions, preventing the potentially lethal blood back-flow into the fusion pipe.

Portifolio Website ↗

High-performance portfolio website using Next.js, integrating real-time 3D mockup with Three.js, GLSL shaders, and custom WebGL logic to create an interactive background and 3D object interactions. Built a custom MDX-based blog engine with custom hydration and content pre-rendering to support dynamic yet SEO-friendly publishing. Optimized the architecture using server-side rendering (SSR), dynamic imports, code-splitting, and modular components for fast load times and scalability.

EDUCATION

University of South Florida   Jan.2024 – Jan. 2026

Masters of Science in Computer Science and Engineering (4.0/4.0)   Tampa, FL, US

Relevant Coursework: Distributed Systems, Cloud Computing, Advanced Algorithms, Software Architecture, Database Systems, Operating Systems, Full-Stack Web Development, Machine Learning

B V Raju Institute of Technology   Aug. 2017 – Jun. 2021

Bachelor of Technology in Computer Science and Engineering (3.9/4.0) (CGPA)   Narsapur, TS, IN

Relevant Coursework: Data Structures, Object-Oriented Programming, Computer Networks, DBMS, OS, Web Technologies, Software Engineering, Design Patterns, Microservices, Data Mining, Compiler Design

HONORS AND ACHIEVEMENTS

- Candidate of **King O'Neal Scholar distinction** for maintaining a **perfect 4.00 GPA** at University of South Florida.
- Ranked among **top 0.1% out of 150k participants**, Successfully cleared HackWithInfy, TCS Codevita coding challenges.
- Worked as **Founding Software Engineer** on a full-featured college CRM platform, now serving **50,000+ students** across universities in India.
- Won **1st** place at **BioAsia 2019 Hackathon** for developing DripM, an innovative solution in healthcare technology.
- **Runners-up** at **Smart India Hackathon (India's largest hackathon)** for developing a chatbot solution for the Crime Department, Government of Maharashtra.