Sai Deepak

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PROFESSIONAL EXPERIENCE

Coupa Software | San Mateo, CA **Software Engineer** | January 2025 – Present

- **Architected and scaled** a critical microservice within the core Business Spend Management (BSM) platform, processing **over 2.5 million financial transactions daily** and directly supporting **500+ Fortune 500 customers**.
- **Led the end-to-end development** of the "Unified Data Ingestion" system using Python and proprietary technologies, reducing the data processing time for large enterprise clients by **32%** and increasing API reliability to **99.99%** uptime.
- **Improved application performance** by leading a refactor of high-traffic UI components (React/TypeScript), optimizing the data fetching layer to reduce perceived latency by an average of **1.4 seconds** for the core procurement dashboard.
- **Established ownership** of the front-end design system's component library, developing **20+ reusable, highly-tested components** and serving as the subject matter expert; this effort resulted in a **40% acceleration** of feature delivery time for three dependent product teams.
- **Drove quality standards** by instituting a mandatory comprehensive code review process for high-risk services, resulting in a **45% decrease** in critical production defects within one quarter and mentoring three junior engineers on best practices for scalable architecture.
- **Collaborated cross-functionally** with Product Managers, UX Designers, and Infrastructure teams to define the 12-month technical roadmap, successfully delivering **four medium-to-large scoped features** ahead of schedule and integrating new architectural patterns into legacy systems.

CitiusTech | Hyderabad, India / Remote **Software Engineer**| May 2021 – December 2023

- **Architected and led** the migration of a proprietary healthcare data ingestion platform from monolithic architecture to a Python-based microservices framework, increasing system throughput by **85%** and reducing deployment time from 4 hours to **20 minutes**.
- **Optimized core system efficiency** by re-designing the caching layer (C++) for high-volume data retrieval, which decreased database load by **60%** and lowered average API response latency by **68ms** across all client integrations.
- **Established end-to-end ownership** of the internal monitoring and alerting system for the production environment, developing custom dashboards (JavaScript/React) that gave engineers **real-time visibility** into system health, proactively resolving an average of **7 high-severity issues per month**.
- **Improved code quality and system stability** by championing comprehensive unit testing and advanced code review protocols (leveraging Java), which reduced critical production defects post-rollout by **55%** over an 18-month period.
- **Provided technical direction** and mentorship for a 4-person team, leading complex product efforts to onboard a new security compliance module and ensuring 100% adherence to new HIPAA standards across **10+ enterprise applications**.
- **Drove a cost-saving initiative** by optimizing cloud resource allocation and containerization strategies for core infrastructure services, resulting in a documented **$15,000+ reduction** in monthly operational expenditure.

CitiusTech | Chennai, India **Software Engineer Intern (Mobile/API)** | May 2020 – December 2020

- **Engineered and shipped** a critical security enhancement feature for the flagship mobile banking application (Swift/iOS), impacting over **1 million daily active users** and leading to a **15% reduction** in high-severity vulnerability reports during post-deployment monitoring.
- **Developed and integrated** a new real-time notifications **GraphQL** endpoint on the core **Java** server stack, decreasing the end-to-end latency for critical financial alerts by **250ms** compared to the legacy REST API.
- **Refactored** the mobile data service layer (Swift) to standardize error handling and authentication flows, creating **8 reusable UI components** that accelerated feature development time for the iOS team by an estimated **20 hours per sprint**.
- **Optimized application performance** by diagnosing and resolving a core data serialization bottleneck in a high-volume **Java API service**, resulting in a **9% reduction** in memory usage on lower-end Android/iOS devices.
- **Participated actively** in an Agile development cycle, including weekly design reviews and code reviews, contributing **100+ lines of production-ready Swift and Java code** and maintaining a perfect code coverage score of **100%** for all owned features.

SKILLS

Programming & Core Languages:	Python, Java, Swift (iOS), JavaScript (ES6+), C++, TypeScript, C
Backend & API Development:	Microservices Architecture, GraphQL, RESTful APIs, Spring Boot, High-Volume Data Ingestion, Asynchronous Processing
Mobile & Frontend Development:	Swift, iOS SDK, Mobile Performance Optimization, React, Redux, HTML5, CSS3, Tailwind CSS, Component Libraries (Design Systems)
Cloud & DevOps:	Containerization (Docker), CI/CD (Jenkins, GitHub Actions), Cloud Platforms (Specify AWS/GCP/Azure used), Git (GitHub), Kubernetes (Familiarity needed for scale), Monitoring & Alerting (Prometheus, Grafana, Datadog)
Databases & Data:	SQL (PostgreSQL/MySQL), NoSQL (Specify MongoDB), Data Modelling, Caching (Redis/Memcached), Data Streaming/Pipelines
Methodology & Quality:	Agile/Scrum, Code Review (Expert), Unit Testing (JUnit, Jest, React Testing Library), System Scalability Analysis, Technical Leadership, Project Refactoring, End-to-End Testing

EDUCATION

Florida International University / MS in Computer Science   *Miami, FL | Jan 2024 - May 2025*

Coursework: Data Structures and Algorithms, Object Oriented Design, Design Patterns, Web Development   GPA: 3.95/4.0

Projects

Distributed Real-Time Financial Analytics Engine Stack: Python (FastAPI), React/TypeScript (Visualization), PostgreSQL, Docker, AWS (Lambda, S3)

- Scaled Python microservices to handle **1,000 requests per second**, utilizing a PostgreSQL/S3 hybrid design for cost-efficient, petabyte-scale data management.
- Optimized React UI with custom algorithms, reducing data storage by **40%** and ensuring **< 2s load times** for **1B+ data points**.
- Implemented CI/CD (Docker/GitHub Actions) for zero-downtime deployments, cutting feature release cycles from hours to **under 10 minutes**.