Raphael Sosa

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PROFILE

Software Engineer with experience in building scalable, fault-tolerant systems using GCP, AWS, Docker, and Firebase. Strong foundation in backend development, cloud infrastructure, automation, and system monitoring. Passionate about Site Reliability Engineering principles with a focus on uptime, observability, and performance optimization.

EDUCATION

Pace University, Seidenberg School of Computer Science and Information Systems (New York, New York)
Bachelors of Science, Computer Science | GPA: 3.03

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, TypeScript
Frameworks & Libraries: React, Next.js, Tailwind CSS
Databases: Firestore, MySQL, NoSQL, PostgreSQL
Tools: Git, VS Code, IntelliJ, Eclipse, Replit
Cloud Services: Google Cloud Platform (GCP), Firebase, AWS S3
Systems & DevOps: Performance monitoring, debugging, automation scripting, API development, containerization (Docker), microservices architecture
Operating Systems: Windows, macOS, Linux (basic)

PROFESSIONAL EXPERIENCE

Software Engineer | Freelance Projects *January 2023 – Present*

- Designed, developed, and deployed cloud-native applications using React, Firebase, and Google Cloud Platform (GCP), ensuring system performance and scalability.
- Optimized CI/CD workflows and improved deployment performance for faster updates and system resilience.
- Automated infrastructure tasks and provided troubleshooting support to enhance system uptime and reliability.

Client Systems & Operations Assistant | H&R Block *February 2025 – April 2025*

- Troubleshot and resolved internal system and software issues for over 20 team members, improving operational efficiency.
- Automated portions of the intake and scheduling process, reducing response time by 35%.
- Enhanced system reliability by tracking workflows and generating performance reports to identify bottlenecks and optimization opportunities.

Database Administrator Intern | United Parcel Service *May 2021 – August 2021*

- Supported and optimized critical internal databases, improving data retrieval performance by enhancing query efficiency and data indexing.
- Contributed to system monitoring scripts for real-time anomaly detection and alerts, improving database reliability and performance.

ADDITIONAL EXPERIENCE

- Service & Engagement Executive Team Leader | Target *May 2023 – August 2024*
- Receptionist | Pace University Counseling Center *January 2022 – September 2023*

ACADEMIC PROJECTS / PERSONAL PROJECTS

Twitter Clone – Python, AWS S3, AWS EC2, Real-Time Updates

- Developing a social media platform with user authentication, post creation, and commenting features using Python and AWS services.
- Implementing real-time updates with WebSockets to ensure seamless interaction for users, including new posts, comments, and notifications.
- Utilizing AWS S3 for scalable storage of user-generated media (images/videos) and AWS EC2 for backend services to handle high traffic and ensure availability.
- Designing the app with auto-scaling, load balancing, and performance monitoring using AWS CloudWatch to maintain system reliability and uptime.

Cloud Cost Tracker App — React, GCP Billing API, Firebase, Firestore

- Developed a cloud cost monitoring tool leveraging the Google Cloud Billing API to track usage patterns and optimize cloud resource allocation in real time.
- Integrated Firebase Authentication for secure user management and Firestore for persistent storage of historical cost data, ensuring system scalability and data integrity.
- Created interactive dashboards with real-time visualization to detect unusual cost spikes and trends, enabling proactive budget management and cost optimization.
- Implemented alerting systems using Google Cloud Pub/Sub to notify users of significant cost anomalies, minimizing financial risk through early intervention.
- Designed the app with a focus on scalability, ensuring the system could handle growing datasets and expanding usage without compromising performance.

Incident Tracker Web App — React, FastAPI, PostgreSQL, SQLAlchemy, JWT Auth

- Built a highly available and fault-tolerant incident tracking platform with JWT authentication to secure user access and protect sensitive data.
- Developed RESTful APIs with SQLAlchemy for scalable incident and comment management, ensuring rapid response and easy maintenance of critical system components.
- Integrated real-time updates using WebSockets and long-polling to provide immediate incident visibility to users, improving response time and operational efficiency.
- Designed role-based access control (RBAC) to ensure that only authorized users can modify incidents, aligning with best practices for system security and data integrity.
- Incorporated automated testing and load testing to ensure system reliability under high load, simulating production conditions for stress testing.

Auto-Healing Microservices Architecture — Python, Docker, GCP, Monitoring Tools

- Designed and deployed a distributed microservices system on Google Cloud with built-in self-healing mechanisms, utilizing container restarts, load balancing, and health checks for seamless service availability.
- Implemented performance monitoring using Google Cloud Monitoring, setting up performance metrics and alerts to proactively detect and address system anomalies, ensuring system uptime and reliability.
- Applied chaos engineering principles to simulate failures and test recovery processes, improving fault tolerance and ensuring the system remained resilient during disruptions.

Certifications

- **Google Cloud Essentials** – Google Cloud Skills Boost (Badge Earned)
- **Python**– freeCodeCamp
- **Java**– freeCodeCamp
- **Javascript**– freeCodeCamp