

Sajan Toor

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Education

Simon Fraser University

BSc: Computer Science - Minor in Mathematics

Vancouver, BC

Sept 2020 - Dec 2024 (Expected)

Work Experience

SAP - Agile Developer Intern

Jan 2022 - Sept 2022

Vancouver, BC

- Developed highly scalable and fault-tolerant microservices required to scale to **millions** of requests with a **99.999%** success rate using Java, Spring Boot, JAX-RS, Apache and Hystrix
- Collaborated on a mission-critical user story, unblocking many other teams, which involved developing new APIs and conducting thorough functionality, performance and scalability testing using JUnit, Mockito and JMeter
- Implemented a proof of concept for a new Kubernetes based synthetic monitoring microservice used to perform health checks on critical workflows for SAP Analytics Cloud, improving stability and reliability of the product
- Improved API response time by **60%** by identifying and caching responses of slow database and upstream calls, ultimately reduced the number of database calls and improved performance of downstream services
- Created alerting systems to proactively notify on-call developers of issues, minimizing customer impact, by monitoring key metrics such as response time and error rate, saved on-call developers' time by **20%**
- Contributed to an end-to-end UI based testing software for canary and production environments using Selenium, Python and Jenkins which allowed developers to identify and fix issues, reduced manual testing by **80%**

Project Experience

NP-Compete

TypeScript, Node.js, Express, Redis, TypeORM, PostgreSQL, Next.js, Chakra UI

- Developed a web application where users join rooms to compete in programming challenges against each other
- Created REST APIs in Express providing endpoints to allow users to login, create rooms, and submit code
- Implemented rooms using WebSockets to communicate events between the clients and server in real-time
- Stored data in a PostgreSQL database, using TypeORM APIs to store, read and update user data, and Redis to persist user sessions and cache frequently accessed data, improving application performance
- Constructed the front-end in Next.js using React Hooks APIs to manage application state and server-side rendering to improve page load times

Unofficial LeetCode API

Java, Spring Boot, Swagger, Apache HTTP Client, Google Cloud Platform App Engine

- Built an API orchestrator providing REST APIs for common LeetCode operations such as retrieving problems, using Apache HTTP Client to make requests to LeetCode's REST and GraphQL APIs
- Deployed the API to Google Cloud Platform's App Engine and used health endpoints to ensure availability

UDP/IP Implementation

Rust, TUN/TAP, Wireshark

- Engineered a multithreaded low-level UDP/IP implementation with full support for IPv4 and UDP protocols
- Orchestrated vital protocol functionalities such as checksum calculation and verification, packet fragmentation and reassembly, handling Time To Live (TTL), etc.
- Utilized a TUN interface allowing for direct interaction with raw network layer packets from the kernel
- Tested implementation using Wireshark ensuring accurate transmission and reception of packets

Skills

Languages: Java, JavaScript, TypeScript, Python, C, C++, Rust, SQL, x86 Assembly, HTML, CSS, Haskell

Technologies: Node.js, Express, Spring Boot, GraphQL, Hystrix, Redis, React, Next.js, Vue, Selenium, RabbitMQ

Tools: Git, GitHub, Jira, Jenkins, Postman, JMeter, Docker, Kubernetes, CloudFoundry, Google Cloud Platform