

Sajan Toor

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EDUCATION

Simon Fraser University

Vancouver, BC

Bachelor's of Science: Computer Science - Minor in Mathematics

Sept 2020 - Dec 2024 (Expected)

- Relevant Courses: Data Structures & Algorithms, Distributed Systems, Embedded Systems, Databases, Networking
- Clubs: SFU Bhangra Club Vice President, SFU Rocketry Club

WORK EXPERIENCE

SAP

May 2022 - Sept 2022

Software Developer Intern - Authentication & Routing Team

Vancouver, BC

- Developed fault-tolerant microservices, **required to handle millions of requests**, using **Java, Spring Boot, JAX-RS, Apache, and Hystrix**
- Implemented authorization APIs for SAP Cloud Platform, tested functionality and scalability with JUnit, Mockito, and JMeter
- **Improved API response time by 60%** by caching responses of slow upstream calls, reduced database calls by 20% and improved performance in downstream services
- Designed a Kubernetes based synthetic monitoring microservice for performing health checks on critical workflows, aimed at **improving stability and reliability**

SAP

Jan 2022 - Apr 2022

Software Developer Intern - Authentication & Routing Team

Vancouver, BC

- **Resolved 15+ bugs** in microservices by communicating with stakeholders, finding root causes, and developing fixes
- **Enabled developers to quickly identify and address issues** by contributing to an end-to-end UI based testing software using Selenium, Python and Jenkins, **reduced manual testing by 80%**
- **Minimized customer impact** by proactively alerting on-call developers of issues by creating alert systems for key metrics such as error rate, **saved 20% of their time**

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 allowing 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
- Utilized Redis to persist user sessions and cache frequently accessed data, improving application performance
- Constructed front-end in Next.js utilized 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 microservice 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: JavaScript, TypeScript, Python, Rust, Java, C, C++, SQL, x86 Assembly, HTML, CSS, Haskell

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

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