

Saksham Bajaj

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SKILLS

Programming/Scripting Languages Frameworks and Tools

Go, Python, C++, Rust, Java, JavaScript, SQL
git, postgres, docker, kubernetes, django, terraform

EDUCATION

University of Waterloo

Waterloo, Ontario

Bachelors of Computer Science (Co-op); Economic Theory Minor; Cumulative Average: 89%

September 2019 - May 2024

- Scholarships: CS International Student Upper-Year Scholarship (\$15,000), President's Scholarship of Distinction (\$2,000)
- Relevant Coursework: Advanced Algorithms; Machine Learning; Databases; Real Time Operating Systems; Compilers

EXPERIENCE

Tesla

Hayward, California

Software Engineer, Platform Engineering Team

September 2023 - December 2023

- Implemented and deployed the first external API (gRPC and REST) for Tesla's deployment platform with >5000 daily users
- Added conditional retrieval and rendering of resource attributes based on module schemas configured by integrating teams
- Adapted the usage microservice to store time ranges, enabling varied granularity in time windows and more flexible querying
- Improved tracking of events initiated by service accounts, strengthening auditing for >3000 existing and all future resources

Curvegrid

Tokyo, Japan

Software Engineer, Core Engineering Team

May 2023 - August 2023

- Implemented backend authentication module integrating Auth0 as an identity provider to secure access for >50 corporate clients
- Developed and tested command line utility in Golang to migrate all users from >100 local databases to single external provider
- Resolved intermittent webhook failures, addressing a $\approx 10\%$ error rate and introduced corresponding error detection techniques

Autodesk

San Francisco, California

DevSecOps Intern, ACS Security, Service Infrastructure

September 2022 - December 2022

- Redesigned security alerting workflow with a modular Python application, enabling streamlined alerting targeting >30 teams
- Threat modelled the architecture and security controls of an organization-wide deployment platform for >100 applications

Miovision

Kitchener, Ontario

Software Developer, Portable Data Collection Team

January 2022 - April 2022

- Strengthened operating environments, including production, by eliminating >1 year worth of configuration drift using Terraform
- Drove design and implementation of company wide design pattern for environment specific database migrations with Flyway
- Safely removed deprecated features and accompanying flags in a critical legacy system used by >50% of customers

Deliverect

Toronto, Ontario

Backend Developer, North American Success Team

May 2021 - August 2021

- Designed and implemented tax processing in Python for 2 API integrations, unblocking sales to 3 enterprises in newer markets
- Identified fix for sporadic character garbling on GET calls to largest integration partner's API, a bug persisting for >6 months
- Reduced API cache misses by 95% and failed calls by adding OAuth 2.0 Access and Refresh token caching using Redis

RESEARCH & PROJECTS

Will Wizard: Pitched the idea of, developed and deployed a will preparation website for a boutique law firm in the UAE

Realtime Operating System: Pair programmed a RTOS in C on a Raspberry Pi including context switches, priority based task scheduler, system and hardware interrupt handlers and message passing for routing of multiple model trains over serial interface

Java Compiler: Pair programmed a compiler for a subset of Java in C++ supporting many Object Oriented Programming features

Automating Loop Correctness Verification under Professor Meng Xu: Extended the Move Prover, a formal verifier for logical properties of smart contracts that manage assets on the Diem Blockchain implementing current research