

Reezan Visram

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Education

University of Waterloo

Bachelor of Applied Science in Computer Engineering, Co-op

- 3.9/4.0 GPA, Excellent Academic Standing

Sept. 2021 – Present

Waterloo, ON

Technical Skills

Languages: Go, Python, TypeScript, JavaScript, C, C++, Java, SQL, Bash, CSS, HTML

Frameworks/Libraries: React, Node, Express, Flask, Django, requests, kivy, OpenGL, QT5, Angular

Tools: Git, Jira, Bitbucket, GCP, Github, Redis, MySQL, Postgres, AWS, Docker, Grafana, MongoDB, Unix

Experience

Ecobee

Software Engineering Intern – Co-op

May 2023 – Aug. 2023

Toronto, ON

- Developed backend cloud microservices using Go and Typescript utilizing Google Cloud Platform (GCP)
- Participated in cloud system design meetings, and designed a new service to retry failed IoTCore device commands, using GKE, Pub/Sub and Cloud Functions
- Implemented a new gRPC endpoint and GraphQL mutation for the mobile app to communicate to the backend when a user has completed their Ecobee Smart Security setup
- Utilized BigQuery to perform data analysis on push notification reliability, allowing the team to quickly identify areas of performance improvement, ultimately leading to 100% reliable push notifications
- Wrote unit, integration and end-to-end tests ensuring all changes were seamlessly integrated into the existing system, contributing to 99.9% service uptime
- Performed load testing on production-ready products, ensuring scalability to handle customer demand
- Enhanced the auto-trial experience when a user registers a device, improving the customer experience
- Created Grafana dashboards for Prometheus metrics, allowing the team to view and fix problems quicker
- Updated tickets in Jira daily with progress and status of tasks that were assigned
- Configured pipelines with CircleCI, leading to smooth deployments to staging and production environments
- Conducted code reviews on Github, leading to extremely readable, high-quality code

Tools: Go, TypeScript, GCP (Datastore, Pub/Sub, BigQuery), gRPC, GraphQL, Grafana, Github, Jira, CircleCI

BlackBerry

Software Developer Intern – Co-op

Sept. 2022 – Dec. 2022

Waterloo, ON

- Developed backend cloud microservices and AWS Lambda functions using Python and Go, as part of the Endpoint Detection and Response team
- Created and implemented a new bulk GET API, increasing request bandwidth by over 50x
- Optimized an EQL to SQL translator library, reducing query times by over 90% and improving stability
- Wrote Python scripts to delete bad records from microservice caches, reducing costs in multiple regions
- Enhanced microservice and Lambda function logging to reduce noise and alert the team to issues earlier, leading to reduced cost and time savings
- Implemented cache statistics logging, allowing the team to identify bottlenecks and areas of cost-savings
- Deployed microservices to ephemeral, staging and production AWS environments using Jenkins
- Wrote initial deployment smoke tests to ensure that microservices were configured properly before deployment, saving time and resources if build was misconfigured

Tools: Python, Go, Docker, EQL, Redis, MySQL, AWS, Git, Jira, Bitbucket, Jenkins

Red Thread Innovations

Software Engineering Intern – Co-op

Jan. 2022 – Apr. 2022

Toronto, ON

- Developed a full-stack web dashboard for 10+ customers to seamlessly manage their applications, using React, TypeScript, Express and Postgres
- Wrote unit, integration, and component tests using Jest and achieved 99% code coverage, ensuring new features integrated seamlessly with the existing codebase
- Containerized applications using Docker and deployed to AWS using configured Bitbucket pipelines
- Designed and implemented a full database schema and defined the relationship between tables in Postgres
- Volunteered to lead end-of-sprint ceremonies such as review and retrospective, leading to increased team velocity and quality of deliverables

Tools: TypeScript (React, Node, Express), Postgres, Docker, Git, Jest, AWS, Jira, Bitbucket

Portfolio of Projects

3D Chess | C++, OpenGL

- Developed a 3D player-vs-player chess game
- Imported chess set models into the game using the Assimp library
- Implemented ray-sphere and object-bounding box collision testing to enable 3D object picking

TypeR | TypeScript (React, Node, Express, TypeORM), Python (requests), MySQL, Docker, Bash

- Developed a scraper to fetch and store data on over 3500 keyboard components from 4 different retailers
- Implemented a REST API with Express, Node and MySQL, to supply data to the React frontend
- Created a recommendation system that guides users on the best time to buy components
- Designed a microservice architecture, leading to scalable and extensible services
- Deployed on GCP with Github Actions, and configured infrastructure using Terraform

NHL Simulation | Python (requests, kivy)

- Developed a simulation of an NHL season using data on over 600 players from the NHL API
- Wrote multiple algorithms to accurately determine the outcomes of over 200 in-game situations
- Created a Graphical User Interface using kivy, allowing the user to view key information

Fractal Visualizer | C++, OpenGL

- Developed a Fractal Visualization application
- Wrote various vertex and fragment shaders in GLSL
- Optimized a Mandelbrot Set drawing algorithm, leading to a depth of 5000 iterations at 60fps
- Allowed customization of fractals using a GUI made with Dear ImGui

Morse Code Teaching Device | C, STM32 Nucleo Microcontroller

- Created a device to teach the user how to read, listen to and write morse code
- Used a microcontroller to interface with various electronic components to enable user input and device output

PillsOnWheels | JavaScript (React Native), Python (Flask), SQLite

- Developed an Android App for users to manage their prescriptions, and order them for delivery
- Created a backend REST API using Python and SQLite, hosted on Heroku
- Wrote over 15 custom React components for user interactions
- Deployed the application on the Google Play Store

Arduino Information Display | Arduino

- Created a heads up display using an Arduino that shows the date, time, humidity, and temperature using data from various electronic sensors connected via a breadboard