

# Kelvin Koon

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## TECHNICAL SKILLS

**Languages:** C++, C, Python, Go, JavaScript, Bash

**Technologies:** AWS, GCP, Github Actions, Docker, Nextjs (React), Splunk

## EXPERIENCE

### Amazon

Feb 2022 – Oct 2025

#### *Software Development Engineer II (Customer Service Security)*

Toronto, ON

- Engineered a detection rule registration mechanism to enable cron-based Athena job scheduling with Java, AWS DynamoDB Streams, Lambda, and EventBridge
- Built a contact transcript summarization service to enrich concession datasets powered by AWS Bedrock (Claude Sonnet), API Lambda, API Gateway, SNS, SQS, and S3
- Extended access control infrastructure to process hiring events, eliminating dwell time for 10k+ employees with Java, AWS Lambda, and SNS
- Architected a self-hosted Maltego service to provision and allocate sandboxed EC2 instances for security engineers with Python, AWS Lambda, EC2 Auto Scaling Groups, EventBridge, and DynamoDB

### Tesla

Sep 2021 – Dec 2021

#### *Firmware Engineering Intern*

Palo Alto, US

- Developed software-in-loop (SIL) infrastructure for battery, temperature, and oil pump graceful degradation to provide safety-critical validation of real-time systems with Python and CANape

### Netgear

Aug 2018 – May 2019

#### *Software Developer Co-op (Aircard)*

Richmond, CA

- Built throughput validation features across various providers and network protocols to expedite the Nighthawk M5 launch with C, C++, and iPerf

## PROJECTS

### Statsugiri | Python, TypeScript, AWS (CDK), Docker, Github Actions

- Leading development of a competitive Pokémon data platform, serving a peak of 100k+ visitors [[demo](#)][[repo](#)][[media](#)]
- Built a data pipeline to reliably schedule and ingest replay logs daily with AWS Lambda, Step Functions, S3, and EventBridge [[post](#)]
- Developed a serverless back-end for filtering high-ranked teams with AWS Lambda, DynamoDB, and API Gateway [[post](#)]
- Built a responsive UI for vending team data with Next.js (React), CloudFlare, and DigitalOcean App Platform
- Configured Github Actions workflow to run tests, check formatting, and automate AWS ECR image builds on merged pull requests [[commit](#)]
- Built a Chrome Extension to streamline batch downloading and exporting of replay URLs [[extension](#)]

### UBC Thunderbots Robotics | C++, C, Python, Bazel

- Contributed to software and firmware development for autonomous soccer robotics, winner of 2021 and 2022 RoboCup Small Size League Div B [[repo](#)][[media](#)]
- Wrote a custom testing framework with Gtest and fff to bootstrap primitive mocking, achieving 78% coverage in the previously untested module [[commit](#)]
- Implemented a circular buffer to store recent difference equation values for the motion controller [[commit](#)]
- Rewrote the control layer firmware abstraction to support grSim's Protobuf format for the virtual RoboCup 2021 competition simulator [[commit](#)]
- Spearheaded STEM outreach and external/internal sponsorship efforts as an administrative lead

### Distributed Hash Table | Go, Docker, Bash, GCP (Compute Engine)

- Collaborated on a fault-tolerant key-value store featuring three-way replication and consistent hashing
- Streamlined GCP deployment using Docker, gcloud SDK, and Bash scripts for up to 50 nodes

## EDUCATION

### University of British Columbia

B.A.Sc. in Electrical Engineering

Graduated November 2021

APSC Rising Star Award [[media](#)]