NICHOLAS WU

nickwu241.github.io | github.com/nickwu241 | linkedin.com/in/nick-wu
778-712-5588 | nickwu241@gmail.com

SKILLS

- Languages: Proficiency in Python, Java, Go. Knowledge of JavaScript, Swift, Scala, C++, C, Bash.
- Technologies: Docker, AWS, GCP, Terraform, Ansible, Kafka, REST, JSON, React, Vue.

EXPERIENCE

Shopify, Software Engineering Intern – Data Infrastructure (Python, Go, Swift, JavaScript, Scala, Bash) Jan – Aug 2018

- Created a Scala service to replicate 100K+ daily SQL queries executing on production **Presto** clusters, for benchmarking and testing updates before deploying.
- Built a deployment CLI leveraging Google Deployment Manager templates and automated monitoring integrations (Datadog, Stackdriver) to enable self-served services such as Presto, YARN, Mode, Azkaban for all teams.
- Shipped a macOS application using **Model View Controller** architecture for Shopify employees to connect to data services, reducing authentication to a Google login.

Hootsuite, Software Developer Intern – Production Operations and Delivery (Python, Go, Bash) Sept – Dec 2017

- Automated resource access management for onboarding and offboarding developers to reduce operations toil.
- Developed **Role-Based Access Control** for development and production services to enable SOC2 compliance.
- Embraced immutable infrastructure for internal services by using: **Terraform** to develop infrastructure as code, **Ansible** to configure **AWS** instances, and **Packer** to build AMIs and Docker images.

University of British Columbia, Undergraduate Researcher – Computer Engineering (Java, C) May – Sept 2017

- Developed DINAMITE, a software performance analysis toolkit for C and C++ programs under Dr. Alexandra Fedorova.
- Reduced 50-100% overhead in CPU tracing by leveraging RTDSC instruction to capture timestamps.
- Established Java support for DINAMITE by implementing CPU tracing using JVM TI to communicate with C libraries, ASM to inject bytecode instructions, and Java's instrumentation API to attach a Java agent.

Safe Software, Software Developer Intern – Platforms (Java, C++) May – Dec 2016

- Upgraded C++ compiler from Visual Studio 2015 to 2017, for over 800+ projects enabling C++11/14 features.
- Implemented the Teradata format using Java (JDBC), allowing users to read from and write to Teradata databases.

PROJECTS

UBC Course Schedule Creator (Go, JavaScript, Python) Apr 2017 – Present

- Developed front end using Vue framework, componentizing schedules, courses, and input fields.
- Implemented a **RESTful** backend in Go to output all possible schedules given input courses.
- Automated scraping data for every course at UBC into a Firebase Database using AWS Lambda.
- Enabled **CI/CD** by integrating CircleCI to automate tests and deploy to Heroku.

Atlantis, an **open-source** tool for collaborating on Terraform (Go) Oct – Dec 2017

- Implemented native Slack integration using **Slack API**, enabling Atlantis servers to optionally notify Slack channels.

Food Shake (Java) Mar – May 2017

- Solved the question "Where should we eat?" by randomly selecting a nearby restaurant upon shaking the phone.
- Published an **Android** library for wrapping Yelp API using Retrofit and GSON.
- Integrated Yelp and Google Maps API to display restaurant details, pictures, and directions.

UBC Snowbots (Python, C, C++) Sept 2014 – Sept 2016

- Built a robot that navigated through an obstacle course, placing 4th out of 42 teams at an international competition.
- Integrated GPS firmware into the robot to relay **real-time** data for software driver to make decisions.
- Implemented an algorithm to calculate the distance and angle towards a given GPS waypoint.

EDUCATION

University of British Columbia, BASc Computer Engineering Sept 2014 – Nov 2019

- Current recipient of Trek Excellence Scholarship for being in the **top 5% of Computer Engineering**.