NICHOLAS WU

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SKILLS

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

EXPERIENCE

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

- Automated 9 out of 12 steps in development workflows by creating 3 **Continuous Integration** pipelines to run tests, build Docker images, and release applications.
- Reduced code size by 20% by modularizing Deployment Manager templates leveraging **Docker** images for data services.
- Enabled blue-green deployments by building a native **GCP** application for registering deployments, integrating Deployment Manager, App Engine, Datastore, Pubsub, and Cloud Functions.
- Shipped a macOS application using **Model View Controller** architecture for employees to connect to data services.

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 compliance.
- Embraced immutable infrastructure for internal services by using: **Terraform** to develop infrastructure as code, **Ansible** to configure **AWS** EC2 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.
- Wrapped 3rd party libraries and redesigned interfaces to fix DLL boundary issues.
- Implemented the Teradata format using Java (JDBC), allowing users to read from and write to Teradata databases.

PROJECTS

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

- Implemented a **RESTful** backend in Go to output all possible schedules given input courses.
- Componentized schedules, courses, and input fields using **Vue** for front end.
- Auto-scraped data for every course at UBC into Firebase Database using Python.
- Fastened CI process by building, pushing, and deploying backend Docker images to Heroku with one Make command.

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**.