NICHOLAS WU

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SKILLS

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

EXPERIENCE

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

- Created a Scala service to replicate 100K+ daily SQL queries executing on **Presto** clusters for testing updates.
- Built a CLI to manage **GCP** deployments, enabling self-served services such as Presto, Mode, Azkaban for all teams.
- Developed a full-stack Rails application to visualize resources and access control across all GCP projects.
- Shipped a macOS application using **MVC** architecture, reducing authentication for data services to a Google login.

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

- Automated resource access management for onboarding and offboarding developers to reduce toil.
- Developed **Role-Based Access Control** for all 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 (Java, C) May – Sept 2017

- Developed DINAMITE, a software performance analysis tool for 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, allowing users to read from and write to Teradata databases.

PROJECTS

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

- Built a full-stack application using **Vue**, Go, and Firebase with **CI/CD** to output schedules given input courses.
- Automated scraping data for every course at UBC into a Firebase Database using AWS Lambda.

Spotty, 1st place @ RUHacks 2018 (JavaScript) May 2018

- Created an Internet of Things solution for hosts to advertise their parking spots.
- Integrated Raspberry Pi, Alexa, cameras, sensors with a **NodeJS** backend and **React Native** application.

Review Me, AWS prize winner @ HTV 2018 (JavaScript, Python) Feb 2018

- Developed a tool to automatically remind PR reviewers to review code.
- Built a dashboard with **React** and implemented backend using **Flask**, GitHub API, Slack API, and AWS.

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

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

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

- Built a robot that navigates through an obstacle course, placing 4th/42 teams at an international competition.
- Integrated GPS firmware into the robot to relay real-time data for software driver to make decisions.

EDUCATION

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

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