NICHOLAS WU

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EDUCATION

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

- Current recipient of Trek Excellence Scholarship: **top 5%** of Computer Engineering.

SKILLS

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

EXPERIENCE

Shopify, Software Engineering Intern – Data Infrastructure   Jan 2018 – Aug 2018

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

Hootsuite, Software Developer Intern – Production Operations   Sept 2017 – Dec 2017

- 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.
- Automated resource access management when on/offboarding developers to reduce toil.
- Developed Role-Based Access Control for all services to enable SOC2 compliance.

University of British Columbia, Undergraduate Researcher   May 2017 – Sept 2017

- Developed DINAMITE, a software performance analysis tool for C programs
- 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   May 2016 – Dec 2016

- Migrated C++ compiler from VS 2015 to 2017 for 800+ projects enabling C++11 features.
- Implemented the Teradata format using JDBC, allowing clients to read from and write to Teradata databases.

PROJECTS

UBC Course Schedule Creator   Aug 2017 – April 2018
- Built a full-stack application using **Vue**, Go, and Firebase with **CI/CD** to output schedules given input courses.
- Automated scraping data for all courses at UBC into Firebase using AWS Lambda.

Spotty   May 2018
- Won 1st place out of 300+ hackers at Ryerson University Hacks 2018.
- Created an IoT solution allowing hosts to advertise their private parking spaces.
- Integrated Raspberry Pi, Alexa, cameras, sensors to a **NodeJS** and **React Native** app.

Review Me   Feb 2018
- Won the AWS prize out of 500+ hackers at Hack the Valley 2.
- Created a tool to remind reviewers to review code via SMS/Slack messages.
- Implemented frontend using **React** and backend using **Flask**, GitHub API, Slack API, AWS.

Atlantis – open-source contribution   Oct 2017 – Dec 2017
- Implemented Slack integration, enabling Atlantis servers to notify Slack channels.

Toy Gun Turret   Jan 2017 – Apr 2017
- Integrated a camera, LCD screen, Wi-Fi/Bluetooth chip, motors to track objects, rotate, take pictures, and fire projectiles.
- Implemented object tracking and motion detection using OpenCV.

UBC Snowbots – engineering student team   Sept 2014 – Sept 2016
- Built a robot that navigates through an obstacle course, placing 4th/42 teams at an international competition.
- Integrated GPS firmware to relay real-time data for software driver to make decisions.