




Alan Ma

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Education

University of Waterloo | *B.Sc. Software Engineering*

2018 – 2023

- 3.86/4.0 GPA, President's Scholarship of Distinction
- **Relevant Courses:** Operating Systems, Data Structures, Computer Networks, Concurrent Programming

Skills

Languages: Java, C/C++, SQL, Python, JavaScript/TypeScript, Ruby

Technologies: MongoDB, Hadoop, GraphQL, React, Vue.js, Flask, AWS SQS, Firebase, Git

Experience

Snowflake | *Software Engineer Intern*

May 2021 – Present

- Joined the SQL development team, building out core database functionality in **Java**
- Working on new methods to efficiently generate synthetic data using metadata

Shopify | *Software Engineer Intern*

Sept – Dec 2020

- Reduced fraud detection processing time by 12% by adding connection pooling to network requests
- Overhauled an open-source API client library using **Ruby**, adding type checking and immutability
- Built a version comparison tool for support teams to identify performance issues in merchant storefronts

Wish | *Software Engineer Intern*

Jan – Apr 2020

- Optimized automated marketing campaigns by designing and A/B testing ranking algorithms, using data from **MongoDB** and **Hive SQL** to boost notification click rate by 15%
- Implemented inline promotions in product feeds, growing profit from ad revenue by \$2.3 million annually
- Engineered a distributed push notification library in **Python** which upgraded security to OAuth2 framework, using distributed processing and **AWS SQS** to deliver 500 million notifications per day

Oracle NetSuite | *Software Engineer Intern*

May – Aug 2019

- Built bonus management features in payroll software using **Java**, allowing managers to easily add bonuses
- Prevented compensation errors related to paid time off by developing a more robust algorithm

Projects

DECA Online Education Platform | *hub.decawoodlands.com*

2017 – 2020

- Developed a full-stack application for competition training using **Python** and **Vue.js**, leading to a 50% increase in members qualifying for international events
- Implemented user roles and token-based authentication to secure REST API endpoints in a **Flask** server

FireWatch – Hack the North 2018 Winner | *devpost.com/software/firewatch*

2018

- Built a website to warn residents about wildfires, using **JavaScript** to display real-time satellite data

Extracurricular Activities

Hack the North | *Organizer (2019 Logistics, 2020 Sponsorship)*

2019 – 2021

- Raised sponsorship from over 30 companies for Canada's biggest hackathon with over 3,000 students