

# Martin Au-Yeung

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## EDUCATION

### University of British Columbia

**Expected Graduation: May 2023**

**BSc. Combined Major in Computer Science**, Life Sciences, Earth & Ocean Sciences – Biology major student before 2020

## SKILLS

**Languages:** Go (Golang), TypeScript, JavaScript, Python, Java, C++, C, SQL, Dart, Ruby, HTML, CSS

**Frameworks & Libraries:** React, Node.js (Express, Passport, TypeORM), Flutter, Next.js, Swing, Tailwind, Gin, GORM

**Tools/Tech:** Git, Linux, Heroku, Firebase, GCP (Compute Engine, NLP, Cloud Functions), AWS (EC2, Redshift), Docker

## EXPERIENCE

### BlackBerry

**September 2021 – Present**

*Software Engineer Intern*

*Remote – Waterloo, Ontario, CAN*

- Constructing new backend system for cloud infrastructure console application from Ruby using Go (Golang)
- Designed and implemented both cloud cluster and capacity report microservices in Go with algorithmic and data structural changes to improve performance over pre-existing version by 134% (- 860ms), 25% ahead of schedule
- Designed and implemented report microservice with Elasticsearch to improve query response time by 40% (-127 ms)
- Improved and redeployed for customer use, a cost calculator microservice to reduce customer workload by 100%
- Mentored and assisted new interns on company software engineering practices and code quality improvements
- Approved and reviewed merge requests of other engineers and was point of contact for owned microservices

### Hölm Metrics

**May 2021 – August 2021**

*Software Engineer Intern*

*Remote – Calgary, Alberta, CAN*

- Constructed from scratch, improvement of company's flagship product using React, Node.js and SQL, 50% of the scoped time and deployed to customers on EC2 to eliminate 3<sup>rd</sup> party company costs (\$70 per client to \$0)
- Architected SSO authentication system with JIT provisioning and created REST API endpoints in Axios to handle authentication requests, reducing user login time by 200% (15 sec to 5 sec) and customer onboarding time by 100%
- Developed question limit and progress tracking features for React and SQL wellness app to first major customers within my 1<sup>st</sup> week of starting, achieved by maintaining a swift development pace and without working overtime
- Went beyond intern responsibilities by facilitating hiring for full-time software engineers, trusted by managers to generate challenging technical questions to screen and express hiring recommendations for 2 final-round candidates

### UBC Science Undergraduate Society

**July 2020 – April 2021**

*Web Developer*

*Remote - Vancouver, British Columbia, CAN*

- Ideated and led redesign of Society's webpage UI and UX for better accessibility to 8300+ UBC Science students
- Went beyond role to lead a React framework transition that decreased site loading times by 400% (10 sec to 2 sec)
- Optimized Security Headers in PHP and migrated site to HTTPS to increase overall site security grade from a D to a B

## PERSONAL PROJECTS

### hubble

**Top 3 Best in Show Project @ Google Cloud Demo Week • Google Cloud COVID-19 Hackathon Fund (\$5000 & Mentor)**

- Led team of 5 in developing a full-stack, social connection app for Android and iOS, 10 months after starting CS major
- Designed and constructed a serverless data scoring algorithm to suggest compatible friends using NLP entity analysis
- Ideated UI on Figma and built over 90% of the front-end application with friend connection and messaging system
- Applied data caching solutions discussed with Google Software Engineer mentor to save GCP usage costs by 100%
- Live Demo to Google: <https://youtu.be/-GaKWMUCaaM?t=4511> Event Link: <https://goo.gle/GoogleCloudDemoWeek>

### ML-based Predictive Modeling of COVID-19 Vaccination Uptake

**Hoffmann-La Roche Infodemic Research Solution Awards – 3<sup>rd</sup> Prize (\$400) • Top 15 Finalist out of 150+ teams**

- Cowrote a research paper in a team of 4 to become a 2021 Undergraduate Big Data Challenge Finalist and Winner
- Published in scientific journal JMIR (Impact Factor: 5.43) ([doi.org/10.2196](https://doi.org/10.2196)), led writing of methods and results
- Generated choropleths in Python to highlight US counties with abnormally low vaccination rates and identified the top 10 key sociodemographic factors out of 70+ that drive personal decisions to receive the COVID-19 vaccine
- Implemented XGBoost ML algorithm in Python to predict COVID-19 vaccination uptake with 62% test accuracy

### Statstify

- Created an interactive CRUD React web-app to present Spotify users listening statistics to peak 120 monthly users
- Devised and developed an individualized recommendation algorithm to suggest “throwback” songs to users