

Martin Au-Yeung

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EDUCATION

University of British Columbia • Combined Major in Computer Science

Expected Graduation: May 2023

Discipline Focus: Computer Science, Biological Sciences, Earth & Ocean Sciences – switched from Biology degree in January 2020

Relevant Courses: Basic Algorithms and Data Structures (C++), Software Construction (Java), Computer Systems (C & Assembly)

SKILLS

Programming Languages: TypeScript, JavaScript, Python, Java, Dart, C++, C, HTML, CSS, PHP

Tools and Frameworks: React, NodeJS, Express, Flutter, GCP (Firebase, Cloud Functions, Compute Engine), AWS (EC2), MySQL

WORK EXPERIENCE

Software Developer Intern

May 2021 – Present

holmetrics

Remote - Calgary, AB, Canada

- Developed React-based dashboard to display ML-modelled employee wellness metrics as a **working MVP demo within 3 weeks of starting**, leveraging React, NodeJS, Express, GoodData, MySQL, and AWS (EC2, Redshift, Glue)
- Developed question limit and progress tracking features on company's React wellness app hosted on AWS EC2 **to first major stakeholders in my 1st week**, using TypeORM queries to MySQL database and by creating SQL views to filter data

PERSONAL PROJECTS

hubble

DubHacks 2020 (October 2020) – Present

Winner of: Top 3 Best in Show Project @ Google Cloud Demo Week • Google Cloud COVID-19 Hackathon Fund (\$5000 & Mentorship)

- Leading team of 4 in developing a full-stack, social connection mobile app for Android and iOS using Flutter and Firebase
- Designed and built a serverless data scoring algorithm to suggest compatible friends using Google's Natural Language entity/sentiment analysis based on user's similar interests/courses/seeking for etc
- Ideated UI and built Flutter front-end with complete friend connection and messaging system with Spotify integration
- Implemented data caching solutions to optimize number of Firebase queries to save usage costs by 200%
- Developing ML-assisted, weighted heuristic recommendation system discussed with **Google Software Engineer Mentor**
- **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 in the US

June 2021 – Present

Winner of: Current Top 15 Finalist for the 2021 Undergraduate Big Data Challenge by STEM Fellowship

- Revising and improving manuscript for submission **for publication in scientific journal** (potentially NRC Research Press)
- Implemented XGBoost ML decision tree algorithm in Python to predict maximum COVID-19 vaccination uptake percentages in US counties with 59% accuracy so far and identify key sociodemographic factors driving vaccination uptake percentages
- Developing web app to visualize predicted vaccination rate as choropleths of the US to improve vaccination campaigns

TripSuite

nwHacks 2021 (January 2021)

- Back-end developer in a 24hr hackathon team of 4 for a React web-app that allows user to plan and calculate trip costs
- Implemented authentication system using BCrypt and Passport that creates new users and hashes user login credentials
- Architected an Express server that performs Axios API calls to allow data from user input to be saved on MongoDB

minecraft-sisters

January 2021

- Created Discord bot to issue commands to Google Cloud Compute Engine hosted Minecraft server
- Automated server deployment and shutdown processes, decreasing time to start/stop from 3 minutes to 2 seconds
- Expanded the ability for other 200 users to issue server commands, saving GCP costs & allowing on-demand start/stop

Statstify

August 2020

- Created an interactive React web-app to present Spotify users listening statistics to peak 120 monthly users
- Devised and developed individualized recommendation algorithm to suggest "throwback" songs to users
- Implemented jQuery (Ajax) API calls to Spotify's API to display current listening moods, top songs and top artists of a user
- Implemented features to allow users to create playlists based on displayed statistics and share statistics to social media.

COMMUNITY EXPERIENCE

Web Developer

July 2020 – May 2021

UBC Science Undergraduate Society

Vancouver, BC, Canada

- Ideated and redesigned Society's webpage UI for better accessibility to 8300+ UBC Science students in 2019
- Took personal initiative to lead development of a React framework transition (Frontity) on society's existing WordPress site, decreasing site loading times from 10 seconds to 2 seconds
- Implemented Security Headers in PHP and migrated site to HTTPS to increase site security grade from D to B score

Robotics Mentor

February 2020

The Code Initiative

Vancouver, BC, Canada

- Taught 24 elementary students basic OOP concepts and conditional statements to move Sphero robot around the classroom
- Inspired students to pursue coding as a potential field of study by explaining personal experiences in why I switched to CS