UBC Science Co-op

T: 604.822.9677 | F: 604.822.9676 | science.coop@ubc.ca | www.sciencecoop.ubc.ca

Luke Browning

Year 2, Computer Science Major at UBC

Technical Skills

Programming:	Python (5yr), JavaScript (3yr), TypeScript (1yr), Java (1yr), Go
Tools:	Git (3yr), Bash (2yr), Docker (2yr), Kubernetes
Environment:	Visual Studio Code (3yr), WebStorm (1yr), Postman (2yr)
Clouds:	Microsoft Azure, Amazon Web Services
Testing:	JUnit, JestJS
Web:	Node.js (1yr), REST

Experience

BGC Engineering - DevOps Engineer Co-op - Vancouver, Canada — Jan 2022 – Present

- Updated Helm charts and worked with Azure DevOps pipelines to configure the automatic redeployment of applications onto a new Kubernetes cluster.
- Configured a compute-optimized Kubernetes cluster for a high-throughput tile rendering app.
- Templated Docker caching for use in pipelines with Azure ephemeral agents by configuring inline caching and pulling from a private Docker registry.
- Worked with AWS to configure a ECS cluster with Fargate backend for use with Dask to allow for computation of data ‘close to the source’.

Engel & Völkers - Freelance Data Analyst - Nassau, Bahamas — Dec 2018 – Jan 2021

- Reverse-engineered the housing market listing website API endpoints with Postman to develop a web scraper in Python which automated the filtering and downloading of housing data.
- Paired the web scraper with a data analysis algorithm written in R to clean, format and transpose the downloaded data into the required format, then exported to CSV files. These two are being used annually to generate housing market reports.
- Similarly, reverse-engineered the AirDNA website to scrape and download Airbnb & Vrbo rental data in The Bahamas.

Technical Projects

Mangathr (TypeScript/Node.js) — Apr 2021 – Present

- Developed a CLI application, written in TypeScript and run with Node.js, which supports downloading and registering comics from various different sources.
- Wrote plugins for different websites, scraping the HTML or using the API to extract the relevant chapter images.
- Implemented a SQLite3 database to allow registration of multiple comics and automated checking for new chapters.
- Implemented a download system that asynchronously download images for each chapter.

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Homelab (Bash/Docker) Jan 2020 – Present

- Deployed a Proxmox hypervisor on a dedicated machine and created an OPNSense VM, a dnsmasq LXC and a Ubuntu VM.
- Configured the OPNSense VM with OpenVPN and Wireguard connected to an Oracle Cloud VM running as a bastion server.
- Deployed multiple Docker containers running services, accessible via a Traefik reverse proxy.

HealthIO (Java) Jan – Apr 2021

- Developed mental health tracking desktop application with a Swing GUI.
- Implemented the ability to track two daily mental health scores, the daily sleep hours and assign activities to a day.
- Created a visualization engine to display user data over a week duration. User data can be exported into CSV format.
- Made user data persistent by reading and writing data to a JSON file when the program is started/stopped.
- Testing for all non-UI code runs with 100% code coverage.

FruitTycoon (Python) Jan – May 2019

- Created a multiplayer tycoon game in Python using the Discord.py library, in which players can make progress in text channels.
- Implemented a system which created user JSON files containing statistics and upgrades when player first interacts the channel bot.
- Developed three types of user-selectable fruit, and assigned higher monetary value to mixed fruit products, encouraging player cooperation.
- Made a leaderboard system, which searches through user JSON files every midnight, displaying the highest ranked players.

Extracurricular Activities

Hack<IT> Design Competition & Hack-a-thon - Nassau, Bahamas Jul 2018

- Brainstormed an idea to install front-facing cameras on a car to warn of incoming potholes.
- Prototyped using an Arduino and ultrasonic sensors, written in C++ to calculate distance.
- Presented our idea and prototype, which won our group $2000 for the second year.

Hack<IT> Design Competition & Hack-a-thon - Nassau, Bahamas Jul 2017

- Designed the outline of a product, installable on older cars which connects to a mobile network and adds capabilities, such as Bluetooth connectivity, remote start and pre-cooling.
- Developed a prototype with an Arduino which ran a HTTP server connected via Wi-Fi to remotely operate a servo; demonstrating remotely opening a car window.
- Presented our idea and prototype to an audience of tech CEO's, which won our group $2000.

Education

UBC Bachelor of Science in Computer Science (Expected Graduation Date: Apr 2024)
UBC Outstanding International Student Award Sep 2020
UBC Computer Science Tri-Mentoring Aug 2021