Luke Browning

Year 2, Computer Science Major at UBC

in.browningluke.dev github.com/browningluke browningluke01@gmail.com +1 (604) 783-3579

Technical Skills

Programming:	Python (5yr), JavaScript (3yr), TypeScript (2yr), Go (1yr), Java (1yr)
Tools:	Git (3yr), Bash (3yr), Docker (3yr), Kubernetes
Environments:	Visual Studio Code (3yr), IntelliJ (2yr), Postman (2yr)
Clouds:	Microsoft Azure, Amazon Web Services
Pipelines:	Github Actions (1yr), Azure DevOps Pipelines
IaC/Automation:	Terraform, Pulumi, Ansible

Experience

BGC Engineering - DevOps Engineer Co-op - ***Vancouver, Canada*** Jan 2022 – Sep 2022

- Maintained a new Azure Kubernetes cluster, updating existing (outdated) Helm charts, and created Azure DevOps pipelines for various projects to build Docker images and deploy charts to the cluster.
- Configured a compute-optimized Kubernetes cluster and created a Docker image for Terracotta.
- Developed CI/CD pipelines for automated Terraform/Pulumi plan comments on a PR, and deployment of IaC.
- Templated Docker caching for pipelines with Azure ephemeral agents, using 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 big 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 market reports.
- Similarly, reverse-engineered the AirDNA website to scrape and download Airbnb & Vrbo rental data in The Bahamas.

Technical Projects

MangathrV2 (Go & 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.
- Rewrote entire application in Golang, to improve performance and executable size.
- Rewrite supports multiple database & metadata types, as well as a greater number of configuration options.

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Homelab (Bash/Docker) Jan 2020 – Present

- Deployed a Proxmox hypervisor on a dedicated machine and created an OPNsense VM, a NAS VM, a dnsmasq LXC and a Cloud-init scalable set of lightweight Debian VMs, with the intention of installing Kubernetes or Docker swarm.
- Configured the OPNsense VM with OpenVPN and Wireguard connected to two Oracle Cloud VMs running as a bastion server, an RSS server, and a DNS-over-TLS authoritative name server with ad & tracker blocking.
- 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, where players make progress in text channels.
- Stored user data containing statistics and upgrades in a JSON file 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 data every midnight, displaying the highest ranked players.

Extracurricular Activities

Hack the North - CactUs - ***Vancouver, Canada*** Sep 2021

- Prototyped a mental health app React Web App, using Google's speech-to-text and sentiment analysis APIs.
- Users can 'talk' to the cactus; where positive phrases would lead to growth, and negative to withering.
- Users' cactus growth is stored in a Firebase firestore, authenticated using Discord's OAuth2.

Hack<IT> Design Competition & Hack-a-thon - ***Nassau, Bahamas*** Jul 2017 & Jul 2018

- Brainstormed an idea to install front-facing cameras on a car to warn of incoming potholes.
- 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.
- Presented our idea and prototype to an audience of tech CEO's, which won our group $2000; both in 2017 and 2018.

Education

UBC Bachelor of Science in Computer Science (Expected Graduation Date: Apr 2025)
UBC Outstanding International Student Award Sep 2020
UBC Computer Science Tri-Mentoring Aug 2021