Henry **Zhangxiao**

Bachelor of Computer Science · Honours · Carleton University

(+1) 613-608-7348 | henry_zhangxiao@hotmail.com | www.henryzhangxiao.com | HenryZhangxiao | henryzhangxiao

Skills

Languages **Python**, **C**, **C++**, **Java**, Makefile, Shell, JavaScript, TypeScript, HTML/CSS
Technologies **Linux/RHEL/CentOS**, **Git**, **OpenShift**, **Kubernetes**, **Private Cloud**, QNX, Jenkins, Docker/Podman, React, GDB, GCC, RPi

Experience

IBM
Markham, ON

System Evaluation and Reliability Test (SERT) *May 2022 - Aug 2023*

- Deployed and **regression tested CD**, **LTSR**, and **Future** release candidate builds using automated **Jenkins CI/CD pipelines** on **AWS**, **Azure**, and **private cloud Fyre clusters**
- Created multiple **Jenkins pipelines** to test **release candidate builds** by enhancing, upgrading, and testing our deployment **Makefiles** and **Bash scripts**
- Maintained a managerial dashboard built in **Django** with over **10,000** GitHub issues and synchronized using **crontab**
- Maintained and upgraded an automation results dashboard built in **JavaScript** and **React**
- Integrated an **automated AWS** resource cleanup script leveraging a **containerized Docker environment**

IBM
New York, NY

IBM SaaS Platform • Multi Cloud SaaS Platform - Site Reliability Engineering *Jul 2023 - Aug 2023*

- **Automated** the **deployment** and **provisioning** of **Prometheus** to provide monitoring and alerting functionality on OpenShift 4.12
- Defined and upgraded existing clusters using **Helm** and **Helmfile**
- Defined and rendered **.gotmpl** template files for Prometheus, AlertManager, and Thanos

IBM
Austin, TX

Cloud Pak Configurator • IBM User Experience Design Team - Cross Pak Consistency • Red Hat *Jul 2022 - Sep 2022*

- **Led development** of a **Dynamic Plugins** pilot project using OpenShift Container Platform 4.11
- Created a mockup of the UI using design prototypes from **Figma** and **InVision**
- Developed using **TypeScript**, **Patternfly**, and **Podman**
- Deployed locally using **OKD** and online using **Fyre clusters**
- Built and pushed to **Quay.io** image registry using **Docker**

Projects

QNX Car Simulator
Carleton University

https://github.com/HenryZhangxiao/QNX-Car-Simulator *Dec 2022*

- A **real-time** car simulator written in **C** using **QNX Neutrino** utilizing **QNX SDP 7.1**
- Hosted locally using a server created with **name_attach** that receives and delivers **messages** and **pulses**
- Implemented modularly using the concept of **parent-child processes** and **threads** to satisfy **microkernel** properties

Nintendo Switch Autoclicker
Personal Project

https://github.com/HenryZhangxiao/Nintendo-Switch-Autoclicker *Jun 2023*

- An **automated** button clicker for the Nintendo Switch using a **9g Micro Servo** and a **Raspberry Pi**
- Executed with **Python3** using the **PiGPIO library** and ran on **Raspberry Pi OS** (Debian)
- Servo controlled using **Pulse Width Modulation (PWM)**

Yume
Carleton University

https://github.com/HenryZhangxiao/Yume *Apr 2022*

- A **2D real-time** game written in **C++** using **OpenGL**, **OpenAL**, **SOIL**, **ALUT**, **GLEW**, **GLFW**, and the **GLM** libraries
- **Physical**, **parametric**, and **hierarchical movement** all handled through **matrix transformations**
- Graphics are drawn using **vertex shaders** and **fragment shaders** using **GLSL**

Education

Carleton University
Ottawa, ON

Bachelor of Computer Science Honours *Sep 2019 - Jun 2024*

Relevant Courses: Discrete Structures I, Discrete Structures II, Design and Analysis of Algorithms I, Introduction to Systems Programming, Abstract Data Types and Algorithms, Introduction to Software Engineering, Operating Systems, Real-time Operating Systems, Object-Oriented Software Engineering, Introduction to Reinforcement Learning, Computer Vision, Database Management Systems, Programming Paradigms, Fundamentals of Web Applications, Social Networking, Introduction to Computer Game Design, Computer Game Design and Development