Henry **Zhangxiao**

BACHELOR OF COMPUTER SCIENCE · HONOURS · CARLETON UNIVERSITY

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Skills

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

Experience

IBM   *Markham, ON*

SOFTWARE DEVELOPMENT ENGINEER IN TEST • DEVOPS ENGINEER • AUTOMATION DEVELOPMENT AND TESTING ENGINEER   *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**
- Deployed, upgraded, and manually intervened **Kubernetes clusters** deployed on **OpenShift Container Platform** to debug IBM Cloud Platform Common Services
- 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*

SITE RELIABILITY ENGINEER • IBM SAAS PLATFORM • MULTI CLOUD SAAS PLATFORM   *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 **Kubernetes clusters** using **Helm** and **Helmfile**
- Defined and rendered **.gotmpl** template files for Prometheus, AlertManager, and Thanos

IBM   *Austin, TX*

FULL-STACK ENGINEER • IBM USER EXPERIENCE DESIGN TEAM - CROSS PAK CONSISTENCY • RED HAT   *Jul 2022 - Sep 2022*

- **Led development** of a **Dynamic Plugins** pilot project deployed using **Kubernetes** on 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

Anki Automation   *Carleton University*

HTTPS://GITHUB.COM/HENRYZHANGXIAO/ANKI-AUTOMATION   *Apr 2024*

- Leverages **Google Document AI** to automatically create Anki flashcards from an image
- Image sharpening, shifting, resizing, and cropping preprocessing handled by custom **computer vision** functions leveraging **OpenCV**
- Model trained to 97.6% accuracy after two weeks

Carleton Library Autobooker   *Personal Project*

HTTPS://GITHUB.COM/HENRYZHANGXIAO/CARLETONLIBRARYAUTOBOOKING   *Aug 2023*

- A **headless automated script** to book Carleton University library study rooms
- Developed in **Python** using **Selenium WebDriver** and **ChromeDriver**
- Support for Windows, Linux, and Darwin

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