Christina Zhang

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Summary of Qualifications

Languages

- Python, C++, C, Java, HTML, CSS, JS, Racket

Technologies and Frameworks

- Git, NumPy, OpenCV, Keras, TensorFlow, OpenGL, Django, React, Unix based OS, Unreal, Blender, Perforce

Additional Skills

- **Outstanding teamwork skills** and **communication skills** gained from hackathons and professional workplace experiences
- **Creative skills** gained through digital art and design
- **Quick** and **eager to learn** new skills, languages and technologies
- **Dedicated** and **self-motivated**, willing to take on a challenge

Relevant Projects

Blob Traffic
May 2022 - Present

A **pathfinding simulation** written in **Python and C++**, to explore intelligent pathfinding behavior in a real-world environment

- Used **OpenGL, Blender** and **C++** to create a **3D visualization** of the pathfinding simulation
- Designed and implemented a **reinforcement learning environment** to train **multiple agents** using **a q-table**, done using **OpenAI gym** and **NumPy**
- Initially used an **A* algorithm** as a proof of concept for single agents

HopiBot
Hawk Hacks
May 2022

Won **second place** with a chatbot designed to increase the efficiency of admitting hospital patients

- Created using **CSS, HTML, JS, Flask** and **SQL,** and **Twilio** and the **Google Maps API** was used to send text messages to patients with details based on a multitude of factors
- Methodically **tested** our chatbot and **communicated effectively** in a **high-pressure** situation

Colour of Hue
Mar 2021 - Jul 2021

Developed a game inspired by I Love Hue, written using **Python, pygame,** and **multi-processing**

- Created splash art and experimented with colour to successfully create an appealing **GUI**
- Learned and implemented a **database** to save and reload data using **sqlite4**

Professional Experience

Tools Programmer
Haven Interactive Studios
Jan 2023 - April 2023

Tasked with designing, and implementing features for multiple **content creation pipelines**

- Designed and developed **Unreal plugins** to export landscape and component data from Unreal for the **procedural generation pipeline** in **C++** and **Python**
- Worked with the **Blender API** in **Python**, adding multiple features to an **asset production pipeline** to improve the usability and efficiency of its **mesh exporting system**
- Collaborated effectively with artists to implement new features in Raven, enhancing their **workflow efficiency within Blender by over 75%**

Software Engineer
Cisco Systems
May 2022 - Aug 2022

Worked on the **full-stack development** of Ondatra and **automating configurations** of Cisco routers

- Updated the **IPv6 Performance Measurement API**, automated **configuration** for Path Tracing
- Added multiple features to **Yangsuite-Ondatra** with the **Django** framework using **Python, Javascript, YANG,** and **Tabulator**
- Used multiple **Python libraries** and worked with **JSON** files to source and report data in a well formatted and informative manner, **increasing internal efficiency by over 50%**

WARG
May 2022 - Present

Active member of the **computer vision** sub team in the WARG design team

- Refactored and developed **machine learning** programs using **Python** and **YOLOv5**
- Used **OR-Tools** to model a drone routing problem with capacity and resource constraints
- Updated and added **parsing** features to a **QR-Code** scanning module in **Python**

Education

University Of Waterloo
Sept 2021 - Present

Candidate for Bachelor of Science Honours in Computer Science/Digital Hardware

- 90 Cumulative GPA, expected graduation April 2026