

# Christina Zhang

Hey! I'm a passionate and ambitious computer scientist with over 5 years of development experience in game dev, tooling, and full-stack development! I take ownership of my projects, am quick to learn new technologies, and am self-motivated, collaborative, and creative, with great communication skills. Outside of work, you'll find me rock climbing, figure skating, and drawing or painting!

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## Summary of Qualifications

### Languages

- C++, Python, C#, C, Java, JavaScript, Typescript, HTML/CSS, Racket

### Technologies and Frameworks

- Firebase, AWS, Node, Express, MongoDB, React, Next.js, Unreal, Unity, Django, Flask, OpenCV, Keras, TensorFlow, Yolo, OpenGL, Pandas, Postman, Git, Unix

## Professional Experience

### Software Developer

*Campfire*

Sept 2023 - Dec 2023

Contributed to **Unity** tools, in-game features, and a **full-stack** web **CMS** at a **YCombinator**-backed startup

- Developed a full-stack web **CMS** app for the management of **LLM prompts** using **Typescript**, **Next.js**, **RefineJS**, **Firebase** and **Vercel**, building a **robust** and **scalable** framework
- Engineered and integrated a **bootup state management** tool in **C#** into the **Unity Editor** and in-game environment, increasing overall development efficiency
- Contributed to **weekly sprints**, working closely with product designers to deliver several full stack user-facing features for a **live service MMO** game implemented with **Unity**, **C#**, and **Firebase**

### Tools Programmer

*Haven Interactive Studios,*

*PlayStation Studios*

Jan 2023 - April 2023

Designed and implemented features for multiple **content creation pipelines**, using **Jira** for progress tracking

- Developed **Unreal** plugins in **C++** and **Python** to support exporting landscape and component data from **Unreal** to **Houdini** and other **DCCs** through the **procedural generation pipeline**
- Significantly improved the usability and efficiency of the **cross-DCC mesh exporting system** by optimizing and adding multiple new features using the **Blender API** and **Python**
- Collaborated closely with artists to design and implement features for the **asset production pipeline**, significantly enhancing their **workflow efficiency within Blender**

### Software Engineer

*Cisco Systems*

May 2022 - Aug 2022

Worked on the **full-stack development** of Ondatra and **automating configurations** of XR-8000 Cisco routers

- Used multiple **Python libraries** and worked with **JSON** files to source and report data in a well-formatted and informative manner, increasing **internal and development efficiency**
- Added multiple features to Yangsuite with the **Django** framework using **Python**, **JavaScript**, and **Yang**
- Performed thorough **pytest** testing to **isolate** and **identify** issues, ensuring the delivery of **high-quality** code

### WARG

*Design Team*

May 2022 - Present

Contributed to the development of **computer vision technology** for **drones** as a member of the **CV** sub-team

- Developed an innovative solution to a **complex drone routing** problem using **OR-Tools** to model and optimize routes with varying capacity and resource constraints

## Relevant Projects

### SnapChef

*github/SnapChef*

Oct 2023 - Dec 2023

Built an app with the **OpenAI API** to generate recipes from real-time video and images of the user's pantry

- Processed and cleaned **8000+** images to train a **deep-learning object detection model** using **YOLOv8** and **PyTorch** to detect and identify **over 30** different foods
- Developed a **full-stack** application using **React**, **React Redux**, **Express**, **Node**, **Flask**, **MongoDB**, and **Postman** enabling users to **create**, **save**, and **delete** their AI-generated recipes
- Implemented a robust **login** and **authentication** system using **Bcrypt** to hash and salt user passwords

### LoL Power Rankings

*github/League\_Hack*

Sept 2023 - Oct 2023

A League of Legends team power rankings **REST API** written in **Python** and deployed using **AWS technologies**

- Performed **data cleaning**, **transformation**, and **exploration** using **Pandas** and **Seaborn**
- Trained and tested **XGBoost** models and implemented a modified **ELO system** to predict team strength
- Used **API Gateway**, **AWS Lambda**, **CloudWatch** and **Postman** to manage **GET** and **POST requests**

### Blob Traffic

*github/Blob\_Traffic*

May 2022 - Dec 2022

A **pathfinding simulation** written in **Python** and **C++** to explore intelligent navigation 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**

### HopiBot

May 2022

Won **second place** at Hawk Hacks with a chatbot designed to boost hospital patient admission efficiency

- Thoroughly tested our **Flask**, **SQL**, and **Twilio** chatbot under pressure, showcasing effective **communication**

## Education

### University Of Waterloo

Sept 2021 - Present

Candidate for Bachelor of Science Honours in **Computer Science**

- 90 Cumulative GPA, expected graduation April 2026