

Lexie Zhang

519-619-9273 | a23zhang@uwaterloo.ca | [linkedin.com/in/aoying](https://www.linkedin.com/in/aoying) | github.com/AoyingZhang

EDUCATION

Bachelor of Software Engineering
University of Waterloo; CGPA: 3.9 (8.9/10.0)

Waterloo, ON
Sep. 2022 – Present

TECHNICAL SKILLS

Languages: Python, C/C++, C#, SQL (Postgres), Java, HTML/CSS, JavaScript, TypeScript
Frameworks: React, ASP.NET MVC, Agile, Cloud-Native Architecture, Firebase, Unity, GTest
Developer Tools: Git, Google Cloud Platform, Linux, REST API, AWS, Azure
Libraries: Pandas, NumPy, Matplotlib, OpenCV, TensorFlow, PyTorch, XGBoost, D3

EXPERIENCE

Research Assistant
University of Waterloo

Aug. 2023 – Present
Waterloo, ON

- **Focus:** Conducted research in the domain of **Human-Computer Interaction** and **Data Visualization**
- **Technologies:** Leveraging **JavaScript** and **React** for effective web-based interfaces
- **Innovation:** Implemented a graphs approach to interconnect items, departing from conventional list-based system
- **Visualization:** Utilized the **D3** library to create intuitive and interactive visual representations of data structures
- **Data Science:** Created data classification model by **Pandas** and **Sklearn** for prediction on data relations

Full Stack Programmer
Toronto Transit Commission

May 2023 – Aug. 2023
Toronto, ON

- **Backend:** Implemented **C#** and **ASP.NET MVC** solutions for back-end development
- **Relational Database:** Reducing response time by 20% through **SQL** query optimization
- **Front End:** Employed **Telerik Grid** and **JavaScript** to revolutionize front-end, resulting in 23% decrease in user error rates and 19% increase in user satisfactory rates
- **Refactoring:** Refactored 30% of the legacy codebase, resulting in 15% fewer maintenance-related issues

Software Engineer
Project: Human City

Jan. 2023 – Apr. 2023
Toronto, ON

- **Unity Engine:** Used **C#** for generating models and generating **sprites** of real-world objects for the **AR** app
- **Object Identification:** Trained **YOLO** model to load **TensorFlow** data graph for real-time Object Identifying
- **Computer Vision:** Enabled camera feature and gesture detection by **OpenCV** and increased accuracy by 14%
- **Machine Learning:** Improved model by **Image mix-up** technique and reduced the error by 11%

PROJECTS

ResuMate AI App | *Python, LangChain, Firebase, Pandas, OpenAI API*

- **AI Helper:** Designed a smart query system allowing users to ask questions regarding specific resume details, and ensured the helper provided accurate responses based on the targeted resume, achieving 90 % user satisfaction
- **LLM & NLP:** Utilized **LangChain**, **OpenAI API** and **Pandas** to enhance answer capabilities by 14%
- **Database:** Facilitated users in uploading resumes, with a storage solution powered by **Firestore**

AutonoMiles Car | *Python, OpenCV, NumPy*

- **Autonomous car:** Enabled the car to sense its environment and perform smooth movement automatically
- **Camera Module:** Established the camera of the **Autonomous Vehicle** by color selection, grayscale, and trackbar functions in the **OpenCV** library, raised **lane detection** capability by 16%
- **Motion Control:** Leveraged the **Raspberry Pi** allowing for 19% speed increase and coordination between motor and camera module

Portfolio Website | *HTML/CSS, JavaScript*

- **Interaction:** Created a portfolio website with **interactive functionalities** such as a hamburger menu
- **Design:** Guaranteed smooth **UI/UX** experience across different devices, received 17/18 positive feedbacks
- **Deployment:** Deployed the website using **AWS Amplify** server and **Github Pages**

TaskFlow App | *JavaScript, React*

- **Front end:** Produced a to-do list app using **ReactJS** enabling users to efficiently add, complete, and delete tasks
- **Database:** Leveraged **Firebase** for real-time data updates, facilitating instantaneous data storage and updates