

LARRIS XIE

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EDUCATION

University of Waterloo

Bachelor's of Computer Science

Nortel Institute Scholarship Recipient (\$1750)

President's Scholarship of Distinction Recipient (\$2000)

Sep 2024 - May 2028

4.0/4.0 GPA

SKILLS

Languages: C++, Python, JavaScript, TypeScript, Java, SQL, C#, C, R
Frameworks: React, NextJS, ExpressJS, NodeJS, Vite, Flask
Database: AWS S3, MongoDB, Firebase, SQLite, MySQL, Redis
DevOps/Tools: Docker, Git, GCP, AWS, GitHub Actions

EXPERIENCE

Student Researcher

Aug 2022 - Feb 2023

Lumiere Education

- Analyzed a financial transaction dataset using Python and trained a machine learning model [↗](#) to classify fraudulent financial organizations with a **99% accuracy** and a **0.001% false positive rate**
- Published a research paper in the **Journal of High School Science** [↗](#) under the mentorship of professor Maria Konte

Autonomous Driving Research Fellow

Oct 2022 - Jan 2023

Inspirat AI

- Engineered and optimized **object detection models for self-driving cars** [↗](#), with multiple approaches including neural networks, CNNs, transfer models, and YOLO
- Presented a comparative analysis of different model architectures, evaluating trade-offs between speed and accuracy in the context of autonomous driving

Virtual Software Engineer

Sep 2023 - Nov 2023

J.P. Morgan Virtual Program

- Fulfilled engineering tickets to create a **quantitative analytics platform** [↗](#) that helps traders better identify under/over-valued stocks
- Launched a data dashboard created with **TypeScript and Python** to visualize JPMorgan Chase's Perspective library, **saving trader productivity hours**

PROJECTS

The Fastest Root [↗](#) React, NextJS, TypeScript, ExpressJS, NodeJS

- Engineered a **full-stack web app** that calculates the cheapest and fastest grocery shopping route given a grocery list
- Implemented dynamic price retrieval through **web scraping** using the **Puppeteer** library to gather real-time pricing data from grocery stores
- Integrated the **Google Maps API** to display the optimal route based on user-defined constraints such as the number of store stops and accessibility to membership-based stores
- Winner at Ignition Hacks (400+ participants)**

Square Up [↗](#) React, Vite, Flask, Python, AWS

- Developed a **full-stack React web app** enabling user collaboration to create dynamic community mosaics by uploading individual photo pieces
- Implemented a **Flask server** leveraging **WebSockets** to seamlessly update mosaics as images are uploaded, ensuring a smooth and interactive UX
- Designed and integrated a scalable image storage and retrieval system using **AWS S3**

NatureReads [↗](#) R

- Built an **R package** for processing and visualizing geographic data from the NatureCounts dataset, one of the largest databases on Canadian birds managed by the non-profit Birds Canada
- Utilized the **dplyr package** for data manipulation and the **sf package** for spatial data processing, enabling advanced geographic queries such as filtering observations within polygonal regions
- Winner at KuriusHacks (500+ participants)**