Larris Xie

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Education

University of Waterloo Sep 2024 - May 2029
Bachelor's of Computer Science **4.0/4.0 GPA**
Nortel Institute Scholarship Recipient ($1750)
President's Scholarship of Distinction Recipient ($2000)

Skills

Languages:	C++, Python, JavaScript, TypeScript, Java, SQL, C#, C, R, Dart
Frameworks:	React, NextJS, ExpressJS, NodeJS, Flutter
Tools:	Git, Vercel, Figma, Postman, Jupyter, GCP, Unity, MongoDB, Firebase, SQLite

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
Inspirit AI

- Developed **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 (e.g. Costco)
- **Winner at Ignition Hacks (400+ participants)**

NutriScan *Swift, Python*

- Developed an iOS app utilizing **computer vision** to track and analyze daily nutritional intake based on user-captured images of food
- Built a **Python backend** integrating **Google Cloud VisionAI** for object detection and image classification, identifying foods and their nutritional content

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
- Leveraged the **Plotly** library to create interactive maps, line graphs, and bar charts, visualizing key metrics like species distribution, sightings by year, and regional population densities
- **Winner at KuriusHacks (500+ participants)**