

Education

University of Waterloo Bachelor of Applied Science in Computer Engineering

2020 – 2025

• Coursework: Data Structures & Algorithms, Systems Programming & Concurrency, Real-Time Operating Systems

Centre of Excellence in Next Generation Networks Machine Learning with Python Certification

Aug 2022

Skills

- **Languages:** C, C++, Java, Python, JavaScript, TypeScript, Dart, MATLAB
- **Frameworks:** Node, Express, React, React Native, Angular, Flutter, Django
- **Data/ML:** NumPy, Pandas, Matplotlib, Plotly, Scikit-Learn, SQL, MySQL, PostgreSQL, Sequelize, MongoDB, Redis
- **DevOps:** AWS, Azure, Firebase, Docker, Kubernetes, Selenium, Robot Framework, Grafana, Kibana, Bash, Linux, Git, Jira

Experience

Software Engineering Intern @ Cineplex

Jan 2023 – Apr 2023
Toronto, ON

- Spearheaded the company-wide migration to automated testing with Python and Robot Framework, ensuring stringent quality standards for software services and introducing end-to-end testing functionality.
- Strengthened security posture by implementing REST API security with OpenID Connect and OAuth 2.0.

Software Engineering Intern @ Tehama

May 2022 – Aug 2022
Ottawa, ON

- Designed a logging and metrics pipeline using Elasticsearch, Fluentd, and Kibana to enable comprehensive monitoring of virtual private networks (VPNs) and organize millions of logs into a unified database.
- Engineered a streamlined Docker container enabling the setup and execution of the complete development environment with a single command, reducing the onboarding timeframe by 95%.

Software Engineering Intern @ KitchenMate

Sep 2021 – Dec 2021
Toronto, ON

- Implemented real-time payment authentication within the kiosk's point-of-sale ecosystem with Stripe's API.
- Automated the seamless cooking process for the Smart Cooker using RESTful APIs in TypeScript to perform QR code dish recognition, and retrieval and processing of cooking instructions from a backend database.

Software Engineering Intern @ Watorace

Jan 2021 – Apr 2021
Waterloo, ON

- Built a multi-agent path planner for autonomous race cars in C++ and ROS using real-time data from LiDAR, radar, and camera sensors, as well as wheel encoders and GPS, decreasing collision rates by over 50%.
- Designed a racing line optimizer in C++ using track cloning, point mapping, automated lap timing, and boundary and collision detection for real-time racing line modeling and calibration.

Projects

Alien Invasion github.com/andyli11/alien-invasion

Jan 2023 – Present

- Developed a 2D space-themed game where players pilot a spaceship tasked with repelling encroaching alien adversaries.
- Built in Python using the object-oriented programming paradigm concentrating on encapsulation, abstraction, and inheritance.

PNG Puzzle school project

Sep 2022 – Dec 2022

- Reconstructed a PNG image through the assembly of fragmented PNG components obtained as binary files from a web server.
- Designed in C with a key emphasis on multi-threading, parallel processing, semaphores, mutexes, and inter-process communication.

Interests

- Soccer, Basketball, Fitness, Cooking, Chess, Reading, Anime, Movies.