YUANLONG CUI

Computer Engineering (Master's), University of Toronto

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Skills

LANGUAGES

- C/C++, Java, Rust
- JavaScript, HTML, CSS
- Python, MATLAB

FRAMEWORKS/TOOLS

- CUDA, Qt/QML
- ROS, NumPy, PyTorch
- Express.js, React, Gatsby

OTHERS

- Git, Unix/Linux, Redis, OOP, AJAX, Jenkins

Education

UNIVERSITY OF TORONTO

Toronto, ON, Canada

Electrical and Computer Engineering (MEng)

2023 – 2025

- GPA: 4.0
- Courses: Introduction to Machine Learning, Applied Deep Learning, Quality of Service, Game Theory, etc.

UNIVERSITY OF WATERLOO

Waterloo, ON, Canada

Mechatronics Engineering (BASc)

2018 – 2023

- GPA: 87
- Courses: Co-operative and Adaptive Algorithms, Software Design and Architectures, Programming for Performance, etc.

Awards & Honours

- President's International Experience Award (2022)
- Dean's Honours List (2019)
- President's Scholarship of Distinction (2018)

Work Experience

UNIVERSITY OF TORONTO | Teaching Assistant (Toronto, ON, Canada)

September 2023 - April 2024 | Computer Science and Computer Engineering

- Delivered lectures to students on **Software Design** (CSC207 and ECE297) and **Systems Programming** (CSC209) during tutorials, designed lab activities, and shared industrial knowledge with students
- Supervised students on their software projects, helped them design and debug their code in **Java** and **C/C++**, and provided guidance on problems related to **architectural designs**, **project management**, and **communications**

DEEP TREKKER | Software Engineer Intern (Kitchener, ON, Canada)

May 2022 – August 2022 | Underwater Remotely Operated Vehicles and Robots

- Architected and built the Digital-Pan-Tilt-Zoom feature for vehicle cameras as the project manager by developing the camera SDK, designing the control algorithms, and building the **C++** backend
- Proposed and developed a **Qt**-based systems monitoring tool on **Linux** that measures and reports all performance metrics of controllers in real time, which makes testing phases 5 times faster
- Identified and resolved the freezing and lagging issues of robotic control by over 60% by employing **flame graphs**, **valgrind**, and many other tools and techniques.

AUTHING | Software Engineer Intern (Beijing, China)

September 2021 – December 2021 | Identity and Access Management Solutions

- Designed and built a **Redis** proxy layer on the **Node.js** backend that reduces redundant database access from the Admin Console by over 90%
- Implemented the One-Tap Login feature using **NestJS**, which enables passwordless login on **Android** devices within 1 second
- Built web pages and front-end components for the Admin Console and Authing Docs using (**React**) and (**Vue**), including the maintenance of documentations
- Developed the Authing SSO SDK (open-source npm package) on IDaaS features for web developers, with over 800 weekly downloads

GENESYS | Software Engineer Intern (Markham, ON, Canada)

September 2019 – December 2019 | Customer Service Software Tools

- Led a team of 4 to build the After-Sales Manager, a **React**-based mobile app that streamlines the after-sales issue management for end customers
- Designed and implemented a DevOps pipeline using **Jenkins** and **Node.js** that regulates the use of npm packages, fully eliminating software regression caused by open-source libraries
- Implemented the Login Gate that supports multiple login types using **AngularJS**, reducing login failures by over 70%

DOZR | Software Engineer Intern (Kitchener, ON, Canada)

January 2019 – April 2019 | Heavy Equipment Rental Platform

- Designed and implemented the User Dashboard and Digital Contract pages using the MERN stack (**MongoDB + Express.js + React + Node.js**), significantly improving the user experience and contributing to over 80% more user signups
- Collaborated with the CMO to make informed marketing decisions using Node.js scripts for **data processing and analysis**
- Refactored the **database** based on business logic for more accurate data presentation and more efficient business analysis