

THOMAS QI

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Education

University of Waterloo

Sep. 2023 – Apr. 2028

Bachelor of Computer Science, Co-op

Waterloo, ON

- **GPA: 3.94 | Cumulative Average: 93.8%**

Experience

Waterloo Aerial Robotics Group

May 2024 – Present

Automation Software Developer

Waterloo, ON

- Implemented a machine learning model for landing pad detection using Ultralytics YOLOv8, achieving successful model inference and integration with existing simulation systems
- Created algorithms to command a drone to navigate to waypoints and perform precise landings using a simulator

Atomic Dev Inc.

Apr. 2024 – Aug. 2024

Software Engineer Intern

Los Angeles, CA

- Developed and maintained a SaaS web content management platform while working in an Agile environment alongside 10 other developers, applying CI/CD best practices via Git and Github
- Created **20+** React components and modals using **React-Redux** and **Axios** for reusability and abstraction
- Utilized **Postman** to test, develop, and migrate **10+ Restful APIs** from **PHP** to **Express**, improving endpoint response time by over **75%**; wrote unit tests for those endpoints using **Jest**
- Leveraged **OpenAI API** to integrate a feature that automatically generates test cases for given code using GPT-3.5, optimizing results by using prompt engineering techniques such as contextual and chain-of-thought-prompting

Coding Pals

Jun. 2022 – Dec. 2022

Computer Science Tutor

Vancouver, BC

- Designed and delivered a 6-month long Java course covering topics such as OOP, algorithms, and data structures to over 80 students through weekly lectures, providing in-depth explanations to competitive programming questions
- Organized and hosted weekly programming contests using HackerRank, answering student questions regarding Java syntax, errors, and runtime/space usage

Projects

Sentiment Analysis Model | [Live Demo](#) | [Github](#) | [Paper](#) | *React, Flask, Postman, TensorFlow, Keras, Scikit-learn*

- Built an algorithm to predict the sentiment of movie reviews using natural language processing and deep learning, training the model using scraped data consisting of 50,000+ movie reviews from IMDB
- Trained CNNs to classify the sentiment of movie reviews, leveraging ML/NLP techniques such as L2 regularization, GloVe word embeddings, and text preprocessing to achieve a training and testing accuracy of **98.7%** and **87.6%**
- Created a full-stack application using **React** and **Flask** for users to get real-time predictions from the trained model, leveraging **Postman**, **Gunicorn**, and **Nginx** to test, develop, and deploy the back-end on an EC2 instance

Price Alert Web Scraper | [Demo Video](#) | [Github](#) | *Selenium, React, Express, Nginx, AWS EC2*

- Developed a full-stack web application using **React** and **Express** that allows users to effortlessly track and web-scrape item prices from an online marketplace with **154,300+** listings
- Implemented web-scraping technology using **Python** and **Selenium**, automatically alerting users using SMTPlib
- Deployed back-end using **AWS EC2** and **Nginx**, enabling seamless front-end and back-end integration via REST APIs
- Automatically bypassed two-factor authentication of the online marketplace by reusing cookies to redirect sessions

FitMetric | [Github](#) | *Swift, SwiftUI, Firebase, XCode*

- Developed an iOS application that records and stores daily body weight of users, allowing for easy access to statistics such as BMI and predicted weight using linear regression
- Designed and created a robust user-authentication system using **Firebase** to streamline the registration process
- Implemented automatically scheduled notifications, notifying users to record weight

Technical Skills

Languages: C/C++, Python, Java, JavaScript/TypeScript, Swift, HTML/CSS, SQL, Bash, R

Frameworks: React, Express, Jest, Flask, Scikit-learn, TensorFlow, Keras, OpenCV, NumPy, Pandas, Matplotlib

Technologies: AWS, Git, Docker, MySQL, Postman, Firebase, Nginx, Selenium, Unity