

GAVIN XUE

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TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, C/C++, Java, SQL
Technologies: React, Node.js, Express.js, Next.js, Flask, MongoDB, PostgreSQL
Developer Tools: Git, Linux, Jira, Postman, Selenium, Cypress, AWS

EDUCATION

University of Waterloo GPA: 89%
Candidate for the Bachelor in Computer Science Sep 2023 – Apr 2028 (Expected)

- Awarded **1 of 10** René Descartes National Scholarships (**\$20,000**) from the Faculty of Mathematics
- Relevant courses: Algorithms Design and Data Abstraction, Object-Oriented Software Development

EXPERIENCE

Front-End Developer Jan 2024 – Present
UW Google Developer Student Clubs Waterloo, ON

- Designed micro front-end architecture for a full-stack Next.js application, leveraging **AWS Amplify** for deployment to promote club events for **200+** members and potential sponsors
- Customized style themes with **Tailwind CSS** and shadcn/ui to align with Google's style guidelines

Web Developer May 2024 – Aug 2024
UW Mathematics Society Waterloo, ON

- Transformed pages from WordPress to a new full-stack site using Pug templating and Sass styling for static interfaces
- Refactored an Express.js server to implement dynamic route handling for **150+** store items, enhancing maintainability through a custom content management system
- Structured JSON data with schemas and **TypeScript** to ensure code base consistency

Information Technology Support Assistant May 2024 – Aug 2024
University of Waterloo Waterloo, ON

- Reduced testing times by automating manual processes with **Selenium Web Driver**, resulting in **up to 10x** faster execution speeds and significantly reducing labour hours
- Automated spam email detection using **Python scripts** to send requests to the **Jira REST API**, reducing the time required to clean the ticketing system by **80%** and boosting team productivity
- Led the development of a research group website, communicating with clients as needed to meet their requirements

Coding and Robotics Coach Jun 2023 – Aug 2023
Code-it Hacks Toronto, ON

- Programmed obstacle avoidance algorithms and live camera feed features in Python for DJITello drones
- Built VR games using HatchXR and Google Cardboard, enhancing campers' creativity and engagement

PROJECTS

Item Lending System [🔗](#) | *React, Express.js, Node.js, PostgreSQL, Cypress*

- Implemented **RESTful** APIs using Express.js, integrating the app with a cloud-based **PostgreSQL** database to facilitate CRUD operations for **300+** data entries
- Configured and secured email authentication using SMTP and **OAuth2** with UWaterloo's email server
- Minimized **end-to-end** test execution times, using **Cypress** for **over 90%** coverage across the site

Broken Link Checker [🔗](#) | *Python, Flask, BeautifulSoup4, Heroku*

- Extracted HTML elements from WCMS 3 sites using BeautifulSoup4 for web-scraping, analyzing URL validity through HTTP response status codes
- Architected a bidirectional **websocket** connection for real-time updates between the **Flask** backend and the client side

Face Recognition [🔗](#) | *Python, TensorFlow, OpenCV*

- Trained a face detection model using **1000+** images, achieving **90%** accuracy
- Integrated the model with OpenCV, reducing the video processing latency to **under 200ms**

CS 136L Labs | *Linux, Bash*

- Automated task workflows using **Bash scripts**, including compiling **C** program files and running test cases to identify bugs
- Experimented with customizing shell and command files in a **Linux** environment