

# GAVIN XUE

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## TECHNICAL SKILLS

**Languages:** Python, JavaScript/TypeScript, C/C++, Java, SQL

**Technologies:** React.js, Node.js, Express.js, Next.js, Flask, MongoDB, PostgreSQL, NumPy, TensorFlow

**Developer Tools:** Git, Linux, Postman, Selenium, Cypress

## 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, Tools and Techniques for Software Development

## EXPERIENCE

### Frontend Developer

Jan 2024 – Present

*UW Google Developer Student Clubs*

*Waterloo, ON*

- Designed a full-stack Next.js application 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 an Express.js server, Pug templating, and Sass styling
- Created dynamic routes and **object-orientated** data handling for the contents of a store page
- Organized 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 process with Selenium Web Driver, resulting in **up to 10x** faster execution speeds and significantly reducing labor hours
- Automated spam email detection using Python scripts to send requests with 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*

- Implemented 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.js, Express.js, Supabase, 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 time, using Cypress for **over 90%** coverage

### 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 on the client side

### Face Recognition | Python, TensorFlow, OpenCV

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