

# Matthew Zhu

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## Education

### University of Waterloo

*BCS, Honours Computer Science with Co-op*

Sep 2025 – May 2030

- **Coursework:** Elementary Algorithm Design (Honours), Linear Algebra (Advanced), Calculus 2 (Honours)
- **Cumulative GPA:** 3.9/4.0

## Skills

**Languages:** Python, C, HTML&CSS, JS, PHP, Java

**Technologies:** GitHub, Git, Firebase, VSCode, LaTeX, Apache Netbeans, PyTorch, Modal

## Experience

### Software Team Member

*SparkYouth Robotics Club FRC Team 8729*

Ottawa, ON

Aug 2024 – Jun 2025

- Developed and tested **Java** software code for our FRC competition robot, improving system reliability
- Learned about **electrical circuitry** and gained experience wiring and using a **Raspberry Pi**
- Used **PathPlanner** to create autonomous pathing for our robot to travel around the arena

## Projects

### Chess4All

*Chess4All GitHub Link ↗*

- Built a **full-stack website** featuring **user login/signup**, an interactive chess board with **legal move validation** for all pieces, and a puzzle training system with **automatic answer checking**
- Created a **chess rule set** with piece-movement logic, intuitive game flow, and board perspective flipping
- Organized **30+ endgame study pages** and a **master games database** with navigation controls
- **Tools Used:** HTML, CSS, JS, FireBase

### OTMaC Website

*OTMaC GitHub Link ↗*

- Built competition website using **Hugo** with custom theme config, **MathJax**, **dark mode**, and **CSS/JS**
- Implemented **dynamic copy-code button**, **theme switching**, and **multiple comment systems**
- Configured site with **sitemap**, **robots.txt**, **Open Graph tags**, and **asset fingerprinting** for production
- **Tools Used:** HTML, CSS, JS

### Personal Website

*Personal Website Link ↗*

- Created a responsive portfolio website using **HTML**, **CSS**, and **JS**
- Built a real-time review system using **Firebase Firestore** with star ratings and dynamic content loading
- Used a personalized **GitHub** link for public hosting and advertising
- **Tools Used:** HTML, CSS, JS, FireBase

## Awards

- University of Waterloo René Descartes National Scholarship Recipient - \$25,000 (2025)
- University of Waterloo President's Scholarship of Distinction Recipient - \$2,000 (2025)
- Canadian Mathematical Olympiad (CMO) Repêchage Qualifier, Eastern Ontario Silver Award (2025)
- 3x Qualifier for the American Invitation Mathematics Examination (2023 - 2025)

## Leadership/Extracurricular Involvement

- Founder of Ottawa Cavaliers Chess Academy (2024 - Present)
  - Cofounded a federally registered non-profit providing chess education to youth
  - Organized and led logistics for 15+ official tournaments
- Contest Organizer for the Ottawa Team Mathematics Competition (2024 - 2025)
  - Organized a contest with 60+ high school students, led a 5-person team
  - Built a website, secured a venue and sponsorships, and created a registration system and scoring tools