Ethan Sun

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Education

University of Waterloo   **Waterloo, Ontario**
BCS, Honours Computer Science with Co-op, President's Scholarship of Distinction   *Sept 2025 - Present*
Relevant Coursework: Functional Programming

Skills

Languages: Python, JavaScript, Java, HTML, CSS and Firebase
Frameworks and libraries:
Tools/Skills: Git, Figma, LaTeX and CAD Modelling

Experience

Spark Youth Robotics - FRC Team 8728   **Ottawa, Ontario**
Mechanical Member   *Aug 2023 – Apr 2025*
 – Engineered a **3-stage elevator system** using **CAD** and **precision fabrication tools**, enhancing robot scoring capability.
 – Designed and optimized a **coral intake funnel mechanism** with **rapid prototyping** and **testing** to increase reliability.
 – Diagnosed and repaired mechanisms under time pressure as a member of Pit Crew, ensuring **zero mechanical failures**.

Vex Robotics   **Ottawa, Ontario**
Mechanical Team Lead and Robot Driver   *Sept 2023 – Feb 2025*
 – Directed the robot design and testing process for the 2024 competition
 – Applied **pneumatics** to create a **mechanical locking mechanism**, expanding robot versatility and precision.
 – Developed and refined a **custom conveyor belt** for the 2025 competition robot, ensuring **85% success** in competition

Projects

Chess4All ↗ (HTML, CSS, JavaScript, Firebase)
 – Built with **HTML, CSS, JavaScript and Firebase**, integrating **database management** and user interaction.
 – Deployed the chess learning platform for **2 clients** and expanded access to **10+ students**, offering lessons and practice puzzles that teach beginners openings and core principles in a game format.
 – Enhanced beginner learning by combining structuerd instruction with hands-on practice to test newly learned skills.

LazyPaste ↗ (JavaScript, Google Docs API, OpenAI API)
 – Built a **chrome web extension** with **HTML, CSS, and JavaScript** and the **Google Docs API** to automate OpenAI-generated responses in documents to streamline study workflow.
 – Enabled dynamic text generation, automated summarization and context-aware suggestions directly in Google Docs.
 – Integrated **OpenAI API** for prompt handling and response parsing, ensuring smooth user expereince and reliable output.

Catcher-POP ↗ (Swift, IOS)
 – Designed an app with **Swift and iOS development tools**, to measure baseball catchers' pop-times from recorded videos.
 – Implemented a results-tracking system to monitor progress over time, enabling players to measure improvements.
 – Planned **AI driven analysis** features to compare new results against historical data and recommend personalized drills.

Volunteering

Marauder's Cup Convenor   **Ottawa, Ontario**
Event Coordinator   *Feb 2022 – Mar 2025*
 – Organized **8** large-scale tournaments over **3** years, including the 2024 NCSSAA Volleyball Championships.
 – Recruited, trained and managed **20+** volunteers per tournament fostering collaboration to ensure successful events

JaysCare Foundation Volunteer   **Ottawa, Ontario**
Youth Advisor   *Nov 2022 – Dec 2022*
 – Mentored **12** youth players through drills and activities adapting the activities to different learning styles.
 – Built a supportive and engaging learning environment by applying empathy, communication and leadership.