Emily Zhang

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EDUCATION

McGill University **Expected 2026**

- BSc. Computer Science and Statistics, minor in Entrepreneurship – *Internship Program* *GPA: 3.83/4.00*
- **Relevant Coursework:** Data Structures and Algorithms (Java), System Hardware, Operating Systems (C and Bash), Probability (R), Statistics, Programming (Python), Machine Learning (Python)

EXPERIENCE

Autodesk **Sept 2024 – Dec 2024**

Software Developer Intern – USD Team *Montreal, QC*

- Integrated the USD (Universal Scene Description) file format into Autodesk's flagship tools (**Maya** and **3ds Max**) using **C++**, **Python**, and **Qt**, enhancing scene rendering for over 50 million users.
- Developed a light linking and shadow management feature for **USD**, improving scene accuracy and performance.
- Streamlined a **open source MaxUSD** environment setup, reducing setup time by 20% for users.
- Improved reference, import, export, roll-ups, and include/exclude functionality for **USD plugins** in Maya and 3ds Max, leading to a 30% boost in export performance.
- Wrote and automated tests in **MaxScript** to verify **USD stage** behavior, ensuring functionality across different scenarios.
- Collaborated in an **Agile** team, participating in bi-weekly sprints, daily scrums, and task management using **Jira**.
- Utilized **Git** for version control and debugged issues using Visual Studio.

McGill University - Laboratory of Advanced Technology in Rehabilitation **May 2024 – Aug 2024**

Undergraduate Research Assistant (https://atrehab.ca/) *Jewish Rehabilitation Hospital, Laval, QC*

- Built a **Python** program using **Pandas**, **NumPy**, **Matplotlib**, and Kinetics Toolkit to process **C3D** files and generate 3D movement graphs from marker data (motion capture data analysis with **Vicon**), aiding stroke rehabilitation research.
- Spearheaded a study on movement patterns for stroke rehabilitation by building a custom IMU (Inertial Measurement Unit) array using **Python**, improving insights for more effective treatments.
- Designed and 3D-printed custom IMU enclosures using **Fusion 360**, reducing setup errors by 15% and maximizing sensor consistency across 20 clinical trials, resulting in a 10% increase in experiment accuracy.

McGill Robotics **Sept 2023 – June 2024**

Software Developer - Drone Team (https://mcgillrobotics.com/) *Montreal, QC*

- Tested and optimized computer vision algorithms for autonomous drone takeoff and landing, increasing control precision by 30% for a 21 kg drone in simulated environments.
- Improved obstacle avoidance systems, achieving a 95% success rate in navigating complex terrains during testing.
- Minimized mission setup time by 40% by optimizing Ground Control Station (GCS) interfaces, enhancing operator efficiency by 40% through better real-time telemetry and control features.

McGill Girl Who Code **Feb 2024 – April 2024**

Facilitor *Herzliah High School, Montreal, QC*

- Taught **Python** to 17 high school students over 7 weekly after-school sessions, achieving a 75% improvement in coding skills based on pre- and post-assessments.
- Led a project where students developed and presented a functional Recipe Manager program to add, retrieve, and delete recipes.
- Enhanced student engagement by 90% by preparing and organizing engaging course materials, leading to high attendance and positive feedback throughout the program.

PROJECTS

My personal website *(HTML, CSS, JavaScript):* https://emilyzzzhang.github.io/

Lazy Eats, McWics Hacks (2024) | *Python, HTML, CSS, JavaScript*

- Awarded **Crowd's prize** by obtaining the most votes among 100+ contestants for LazyEats, a recipe-recommendation website.
- Constructed the front end using **HTML**, **CSS**, and **JavaScript**, and deployed the back end using **Python**, ChatGPT 3.5 **API**, and Google Maps **API**.

Wi$er, McGill BOLT Bootcamp Case Competition (2024) | *UI/UX design, Figma*

- Won **3rd place** out of 100+ participants and **Best ESG award** for demonstrating excellence in sustainable financial behaviors.
- Designed the UI using **Figma**, focusing on enhancing user experience for sustainable financial decision-making.

TECHNICAL SKILLS

- **Programming/Markup Languages:** Python, Java, HTML, CSS, JavaScript, Bash, SQL, R, C, C++, Swift
- **Frontend:** React.js, Next.js **Backend:** Flask, Node.js, HTTP, AWS
- **Concepts:** Agile Methodologies, Scrum, Jira, UI/UX, Object Oriented Programming, Software Architecture