Emily Zhang

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EDUCATION

McGill University **Expected 2026**

- Bachelor of Science (BSc) in Computer Science and Statistics with minor in Entrepreneurship. *GPA: 3.83/4.00*
- Relevant Coursework: Data Structures and Algorithms (Java), Computer Systems, Operating Systems (C and Bash), Probability (R), Statistics, Programming (Python)

EXPERIENCE

Autodesk **Sept 2024 – Dec 2024**

Software Developer Intern, USD Team *Montreal, QC*

Project: Develop a feature for light linking and shadow linking of USD lights and objects.

- Integrating the USD (Universal Scene Description) file format into Autodesk's flagship tools (Maya and 3ds Max) using C++, Python, and Qt, improving content creation workflows for over 50 million users, while using agile methodologies.
- Optimized and tested the environment for MaxUSD, an open-source project, reducing setup time by 20% for users integrating USD files into 3ds Max.
- Developed reference, import, and export functionality for the USD plugin in Maya and 3ds Max using C++ and the USD API, resulting in a 30% improvement in export performance.

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

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

- Developed a Python program using Pandas, NumPy, Matplotlib, and Kinetics Toolkit to process C3D files and generate 3D graphs of body movements from marker data, enhancing the understanding of movement patterns for stroke rehabilitation and leading to more effective treatments.
- Built a custom IMU (Inertial measurement Units) array using Python, which increased sensor accuracy by 25% and enhanced the classification of upper extremity (UE) movements in stroke rehabilitation through motion capture data analysis with Vicon.
- Reduced setup errors by 15% by designing and 3D printing custom IMU enclosures using Fusion 360, ensuring consistent sensor placement across 20 clinical trials and improving experiment accuracy by 10%.

McGill Robotics **Sept 2023 – June 2024**

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

- Developed and tested computer vision algorithms for autonomous drone takeoff and landing, resulting in more precise control by 30% for a 21 kg drone in simulated environments.
- Improved the obstacle avoidance system, successfully navigating 95% of the test scenarios, which included complex terrains.
- Reduced mission setup time by 20% by optimizing a Ground Control Station (GCS) interface, increasing operator efficiency by 40% through better real-time telemetry and control features

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

Facilitor *Herzliah High School, Montreal, QC*

- Taught Python to 17 high school students over 7 weekly after-school sessions, resulting in a 75% improvement in their coding skills, measured through before and after assessments.
- Led a project where all students created and presented a working Recipe Manager program to add, retrieve, and delete recipes.
- Improved student engagement by 90% by preparing and organizing course materials that were engaging and easy to follow, leading to high attendance and positive feedback throughout the program.

PROJECTS

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

- Awarded **Crowd's prize** by obtaining the most votes among **100+** contestants for LazyEats, a recipe-recommendation website to help users plan meals, easy-to-follow recipes, and grocery store ingredient information.
- Designed and prototyped the interface in Figma, implemented front-end using HTML, CSS, JavaScript, and developed back-end using Python and Flask.
- Integrated GPT-3.5 API to generate personalized meal ideas based on user preferences.

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

- Won **3rd place** out of **100+** contestants and **Best ESG award** for creating an app, wiser, that promotes sustainable financial behaviors.
- Designed a UI/UX prototype for the app using Figma and developed it using Swift.

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, DevOps, Software Architecture