Emily Su

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Education

University of Toronto   Toronto, ON
Honours Bachelor of Science in Statistics, Computer Science, and Digital Humanities   *Sep 2021 – Jun 2025*

- **Awards**: SimpliHacks 2.0 Hackathon - 2nd place (College) & Best Domain Name

Technical Skills

Languages: Python, C, R, HTML, CSS, Java
Technologies and Tools: React, Pandas, Git, GitHub, Bash, Django, Tailwind CSS, Vim, JUnit, Pytest, Figma, Canva, Microsoft Office, Jira

Professional Experience

University of Toronto Faculty of Information, COoKIE Group   Oct 2023 - Present
Human-Computer Interaction Research Assistant   *Toronto, ON*

- Conducted quantitative analysis on paralinguistic cues and edited audio clips of **20+ participants** using **Microsoft Excel** and **Audacity** to find differences in certainty in human-to-human and human-to-agent communication.
- Developed website using **JavaScript**, **HTML**, and **CSS** to help machine learning practitioners deal with bias in their datasets by presenting information on dataset biases and fairness techniques to mitigate these biases.

University of Toronto Faculty of Information, STREET Lab   Jun 2023 - Present
Lab Programmer / Research Assistant   *Toronto, ON*

- Built a user-friendly desktop app to transcribe and translate audio interviews using **Electron**, **JavaScript**, and **OpenAI's Whisper API**.
- Developed a **concurrent data pipeline** in a two-person team using **asynchronous programming**, **Git**, **Python**, **Telethon**, **Telegram API**, and **Microsoft Excel** that **web scrapes** and cleans Telegram data to analyze resistance movements online.
- Optimized code and reduced data retrieval time by **54%** by executing **benchmark tests** and implementing **parallel requests**.
- Reduced manual operations for **3+ non-technical researchers** by **automating** folder creation and file organization.

University of Toronto, Innovation Hub   May 2023 – Aug 2023
Qualitative Data Archivist   *Toronto, ON*

- Identified specific pain points of students at the university by conducting an in-depth **data analysis** of interviews from a 7-year database using **Dedoose**, **Microsoft Word**, and **Microsoft Excel**.
- Wrote **need-driven insights** to university executives to drive meaningful change.
- Assisted with **teaching** Dedoose, a mixed methods research software, and **qualitative coding** to other project teams.

Omdena, Save the Children US   Nov 2022 – Feb 2023
Data Analyst   *Remote*

- Streamlined process of training **machine learning models** to accurately identify risky online behaviour by **preprocessing large conversational datasets**.
- Spearheaded **exploratory data analysis** on 10 datasets using **n-gram models**, **Python**, **Pandas**, **NLTK**, **Seaborn**, and **Git** to uncover common phrases and word frequency.
- Developed a notebook for 30+ team members that **aggregates** and **visualizes 3+ datasets** at a time.
- **Presented** key findings from analysis to executives and 20+ team members to enhance understanding of complex datasets.

Unitic   May 2020 – Jan 2022
Lead Frontend Engineer   *Ontario*

- Led the frontend team of 4 to develop the website and platform using **Next.js (React.js)**, **HTML**, **Tailwind CSS**, **CSS**, **JavaScript**, **JQuery**, **GitHub**, and **Drupal**.
- **Quoted** by the town of Newmarket's **newspaper**, Newmarket Today on Unitic's impact statement.
- Encouraged an **inclusive user audience** by optimizing the website's **accessibility** and **performance** to **90%** and **95%**, respectively.

Projects

Q-SITE Entanglement Initiative: Interactive Data Visualization | *Python, SentenceTransformers, Seaborn, Pandas, scikit-learn*

- Connected **296+ conference attendees** by developing an interactive data visualization in a cross-functional team to group up similar consenting attendees using **text embeddings** and all-MiniLM-L6-v2, a **SentenceTransformers model**.

Exoplanet Classifier & Safronov Number | *Python, React.js, Vite, JSX, CSS, scikit-learn, Pandas, Matplotlib, NumPy, Plotly*

- Applied **k-means clustering** to exoplanets from NASA's archives, which resulted in 3 potential subtypes being identified using **Python**, **scikit-learn**, **Pandas**, **Matplotlib**, and **NumPy**.
- Calculated the Safronov number for each exoplanet type to determine its relationship with planetary ejection.
- Developed **interactive dashboard** visualizing results from data analysis using **React.js**, **Vite**, **JSX**, **CSS**, and **Plotly**.

Sheep Jump AI | *JavaScript, p5.js, HTML, CSS*

- Created a web-based **AI** that learns to play a **game** where 10 sheep jump to avoid obstacles using the **genetic algorithm**.

Nourpact (SimpliHacks 2.0 2nd Place College Winner & Best Domain Name) | *React.js, CSS, SerpAPI*

- Developed a web app using **React.js**, **CSS**, and **SerpAPI** aimed at reducing food waste by **web scraping** Google for local food rescues and recipes.

Timetable Generator | *Java, Swing, Gradle, Jackson API*

- Developed a **fullstack**, **Java program** that generates potential timetables for UofT Arts & Science students based on their preferences using **Swing**, **Gradle**, **JSON.simple**, **JUnit** (for testing), and **Jackson API**.
- Produced **clean** and **extensible code** by following the **MVP architecture** and **SOLID** and **clean architecture principles**.

UHS Robotics Website | *HTML, CSS, JavaScript, JQuery, Bootstrap, UIkit, GitHub*

- Reached **900+ views** a month on the team's website, which was developed using **HTML**, **CSS**, **Bootstrap**, **UIkit**, **JavaScript**, **JQuery**, and **GitHub**.
- Improved website performance to **85%** and website responsiveness using **Google Lighthouse**.

Leadership Experience

Q-SITE Conference (Quantum)   May 2022 – Present

Design Director and Organizer   *Toronto, ON*

- Developed a data visualization in a cross-functional team to group up similar consenting attendees using **text embeddings** and applying **dimensionality reduction** on survey data using **D3.js**, **Pandas**, and **SentenceTransformers**.
- Led meetings with design team and assigning tasks to team members.
- Attracted **300+ ticket sales** to date by creating graphics, promotional materials, and banners and contributing to building the website..
- Facilitated talks and providing technical support during the conference.
- Created 12 logo variations for Q-SITE Conference and created logos for Q-SITE Toronto.
- Developed design guidelines for Q-SITE Conference.

University of Toronto Quantum Computing Group   Oct 2021 – Oct 2022

Design Director   *Toronto, ON*

- Built the group's website for the 2022-2023 school year.
- Created information package, logos, and social media graphics for QuiP and QIS workshops during the 2021-2022 school year.