Ethan Zhao

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EDUCATION

University of Western Ontario   **London, Ontario**
Engineering and Ivey Business HBA Candidate   Sept. 2023 – May 2028
- First Term Average: 96.3% (4.0 GPA). Recipient of the Western Scholarship of Distinction ($2,500).
- Elected first year Engineering Representative. Appointed VP Finance of Residence Council.

TECHNICAL EXPERIENCE

Foursight – Gene Based Cancer Detection   **Thornhill, ON**
Tensorflow, Python, Javascript, SQL, Data Analytics   www.ethanzhao.me/projects/foursight/
- Developed a 95% accurate AI to detect the probability and location of cancer from Micro-RNA sequences which received over $10,000 in funding from separate organizations and began a comprehensive network of researchers and investors.
- Engineered the back- and front-end of the AI interface which allowed for secure and reliable public access to the AI model for widespread impact and recognition from various science fairs, companies, and contests.

Automated Cadet Training Management   **Richmond Hill, ON**
Python, SQL, REST API, Web Security   www.ethanzhao.me/projects/banshee-training/
- Integrated a training app into cadet activities to automate assignment of instructors and training requirements as per the department of defense which saves over 6 hours a week for the training team of 15 people.
- Proposed further implementation of this system into other squadrons to the commanding office which resulted in partial use within neighboring squadrons and possible expansion into other areas.

Robert's Rules Council Helper   **London, ON**
Sveltekit, Typescript, Web Sockets, SSE, SQL   www.ethanzhao.me/projects/roberts-rules-helper/
- Initiated the development of a council speaking order and voting app which improved member consistency, fairness, and efficiency during meetings.
- Collaborated with the president and speaker to develop a simplistic and reliable interface which can handle over 200 concurrent users and accurately handle race conditions and poor internet connection.

Echo – Reminiscence Therapy Assistant   **Richmond Hill, ON**
Web Sockets, Nextjs, PostgreSQL, Asset Database, CI/CD   https://www.ethanzhao.me/projects/memory-echo/
- Echo utilizes a live streaming API to encourage self-reflection and improve recovery times of memory affecting diseases or conditions through reminiscence therapy.
- Coordinated a team of 3 developers, each with varying levels of skills, to complete development within limited timeframe, allowing for a fully functional and deployed full stack app within 36 hours.

Quantum Portfoilo Optimization   **Richmond Hill, ON**
D-Wave, Fast API, Quantum Algorithms, REST API, CI/CD   www.ethanzhao.me/projects/portfolio-optimization/
- Utilized quantum computing through D-Wave computers to maximize a portfolio's returns while minimizing risk through covariance analysis of live data obtained through stock APIs.
- Performed detailed qualitative analysis on 50 stocks to combine both human analysis of companies with quantum-based algorithms by abusing quantum computations to reduce an exponential time and space complexity to constant time and linear space.
- Managed the project team by separating projects into sub-teams and coordinating progress through a CD workflow.

SKILLS AND AWARDS

Languages: Java, Python, SQL (Postgres), Javascript + Typescript, HTML/CSS
Frameworks: Node.js, Flask, Django, WordPress, FastAPI, Tailwind, Nextjs, Sveltekit, React Native
Developer Tools: Git, Docker, AWS, Google Cloud, VS Code, PyCharm, IntelliJ, Eclipse, Web Sockets, OnShape
Libraries: Pandas, NumPy, Matplotlib, MongoDB, TensorFlow, pyTorch, React

Awards:
- RCACS Captain S.K. Kham Memorial Award for Excellence 2023
- TD Achieve the Dream Scholarship Recipient 2023 - $2,500
- RBC Scholarship Program 2023 - $2,500
- Remarkable Students Yearly Grand Prize Award 2022 - $10,000
- Remarkable Students June Monthly Grand Prize Award 2022 - $5,000
- RCACS William Renwick Level 4 Memorial Award of Excellence in Mandatory Training 2021

WORK EXPERIENCE

Snow Hawks Ski School   **Toronto, ON**
Intermediate Ski Instructor   December 2021 – March 2023
- Taught and supervised a class of 8 Intermediate skiers for 9 hours a day resulting in their promotion to advanced.
- Encouraged distracted students by designing weekly lesson plans tailored to the student's strengths and weaknesses.
- Collaborated with a team of over 50 instructors to form group events and manage student success which created a return student rate of over 80%

Project Tech Conferences NGO   **Toronto, ON**
Finance Director   June 2020 – July 2022
- Arranged financial statements for conference and event planning, following regulations surrounding NGOs while granting spending freedom to other team members.
- Co-led biquarterly conferences for high school students, inviting CEOs and industry leaders, and averaging over 50 attendees per conference.
- Conducted sponsorship planning and outreach; created a sponsorship package for easier external contributions which brought thousands in sponsorship revenue.

LEADERSHIP EXPERIENCE

Undergraduate Engineering Society   **London, ON**
First Year Representative   Sept. 2023 – Present
- Hosted study sessions before exams for first year engineering students to prepare for midterms averaging 30 members each and creating an easy QnA environment for students still transitioning to a self-guided university life.
- Accelerated information transfer from faculty and organizations to the general engineering population resulting in a 53% majority vote during elections and increasing attendance in referendums and school events.
- Conducted conflict resolution between faculty and students which resolved examination overlaps, unreasonable assessment times, and brought light to the reasons behind faculty's decisions.

Western Saugeen Residence Council   **Richmond Hill, ON**
VP Finance   Sept. 2023 – Present
- Crafted a budget of over $150k for student life events throughout the year, including a multi-council year-end formal totaling over $100k with more than 800 students in attendance.
- Assisted in leading a council of over 40 members who represent 1200 students, resulted in a consistent attendance to bimonthly events and incredibly popular second semester orientation week activities.
- Accelerated procedure for event approval, quotes, and invoices authorization for a formal work environment, ensuring sole responsibility and university policy is followed while reducing time from event planning to finalizing orders by 80%.

Western TECH   **Richmond Hill, ON**
Director and Co-Founder   Oct. 2023 – Present
- Collaborated with an executive team of 8 members to form a constitution and move towards formal ratification, allowing for club operations to begin within 2 months of its initial organization.
- Founded a project-based engineering education school club which aims to create a pipeline for beginning software development, garnering over 30 members within the first month.
- Hosted workshops and oversaw advertisement for the engineering student population while vetting future workshop hosts, resulting in 4 new hosts and 3 new upcoming workshops.

aPrepTutors   **Richmond Hill, ON**
Lead Software Developer   May 2023 – Sept. 2023
- Established a tutoring company which paired International Baccalaureate candidates to graduates which grew to host 14 students, 8 tutors, and became profitable within one month.
- Designed a custom full stack website which autonomously matched possible clients with tutors based on availability, reducing acquisition time from 2 days to a few minutes.
- Organized a team of 3 developers and 2 directors using a CI/CD workflow to initialize company operations, allowing for sales to begin in less than a month and our first client acquisition a week after.

Royal Canadian Air Cadets   **Richmond Hill, ON**
Operations Warrant, Band Commander, UPAR Commander   Sept. 2017 – June 2023
- Enhanced major events, such as overnight training activities at military bases, for a squadron of 225 cadets by implementing creative hands-on experiences, resulting in record cadet engagement and information retention.
- Spearheaded porting all cadet accounts, records, and systems to a military version of Office 365 from Google which allowed for the digitization of announcements and resources, reducing the time for critical messages to be sent by days.
- Optimized the training program to take into account instructor qualifications and interests to improve training quality for cadets and expand the creative capacity of lessons.