

Yichen Wu

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Madarin — English — French

Education

Bachelor of Engineering (B.Eng) - Software Engineering

Sept. 2019 – May 2023

McGill University

CGPA: 3.97/4.00

Prizes and Awards

 **British Association Medal** May 2023

Award to the student in the graduating class with the highest position in the final examinations

 **Dean's Honour List** Jul. 2022, May 2023

Award to the GPA top 10% students of the faculty of engineering

 **Hatch Scholarship (Value: \$10,000)** Jul. 2022


Award based on the high academic standing and overall contribution to university life by the faculty of Engr

 **Summer Undergraduate Research in Engineering (SURE) Award** May 2021, May 2022

Total Value: \$13,500

 **Tomlinson Undergraduate Award (Total Value: \$600)** Apr. 2020, Dec. 2020

Award for the contribution to the mentorship program for improving science education

 **James McGill Scholarship Award (Value: \$3,000)** Aug. 2019 - Jan. 2023

Award for academic achievement and leadership abilities in school and community activities *Renewed for 4 years*

Research Experience

Volunteer Researcher Sept. 2022 - Present

Heartwise AI Lab

- **Processed large-scale video clinical data** with integration of the test results from diverse sources to support machine learning model training
- Train **task specific deep learning models** for angiogram data to simplify and improve the accuracy of heart disease diagnosis under Dr. Robert Avram.

Volunteer Researcher May. 2022 - Present

Intelligent Technologies in Anaesthesia Group

- Designed and implemented a **vital sign simulation** for a hybrid sedation system (HSS) to facilitate experimental validation and eliminate reliance on real patient data during system testing under Dr. Thomas Hemmerling.
- Engineered a self-built Raspberry Pi-based video laryngoscope for **Augmented Reality (AR)** glasses and integrated with oxygen saturation detector, enhancing endotracheal intubation and improving first-pass success rates.
- Full stack python development of **SAT-MAP** enabling **3D visualization** of subcutaneous fat layers from ultrasound scans to support quantitative analysis in medical imaging research.

Research Intern May 2022 - Aug. 2022

Biofluids and Global Health Lab

- Calibrated a **complex compartmental model** for COVID-19 transmission in a fictional Quebec population, based on the foundational Susceptible-Infected-Removed (SIR) model, to predict infection dynamics and support intervention strategy ideation.

Research Intern

May 2021 - Aug. 2021

Broadband Communications Research Lab

- Developed an **AI-assisted transfer learning** tool for hybrid multi-user, massive Multiple-input and Multiple-output (MIMO) systems to optimize signal power allocation for users.

Publications

- Daccache, N., **Wu, Y.**, Jeffries, S. D., Zako, J., Harutyunyan, R., Pelletier, E. D., Laferrière-Langlois, P., Hemmerling, T. M., “Safety and recovery profile of patients after inhalational anaesthesia versus target-controlled or manual total intravenous anaesthesia: a systematic review and meta-analysis of randomised controlled trials”, *British Journal of Anaesthesia*, May 2025.
- Harutyunyan, R., Gilardino, M. S., **Wu, Y.**, Hemmerling, T. M., “Description of a Novel Web-Based Liposuction System to Estimate Fat Volume and Distribution”, *Aesthetic Surgery Journal*, Nov. 2024.
- Torres-Florez, S., Flores Anato, J. L., He, J. H., Garrido Portilla, V., **Wu, Y.**, Maheu-Giroux, M., Racine, É., Wagner, C. E., “Evaluating COVID-19 vaccination policy in Québec (Canada) using a data-driven dynamic transmission model”, *PLOS Computational Biology*, Submitted in Nov. 2024.

Professional Experience

Software Developer in Test Associate

Oct. 2023 - Present

Dayforce Inc.

- Conduct comprehensive testing, including end-to-end automation, API validation, and performance benchmarking.
- Research and integrate language model-based machine learning solutions to streamline workflows and enhance development efficiency.

Teaching Assistant

Jan. 2021 - May 2021

McGill University

COMP250 - Intro to Computer Science (Data structure and algorithms in Java)

Teaching Assistant

Jan. 2022 - Apr. 2023

McGill University

ECSE211 - Design Principles and Methods (Raspberry Pi robotic project in Python)

Leadership & Community Engagement

Ambulance St. John

Dec. 2023 - Present

Medical First Responder

McGill Electrical & Computer and Software Engineering Student Society

May 2022 - Apr. 2023

Vice-President, Academic

McGill Engineering Undergraduate Society

Nov 2022 - Mar. 2023

Equity Facilitator

Invited Workshops

Canadian Institute for Advanced Research on(CIFAR) Solution Network Meeting

Jan. 2025

Invited Guest

- Participated in the Integrated AI for Health Imaging Solution Network meeting.

Examining the Responsible Deployment of AI in Healthcare, CIFAR

Dec. 2023

Invited Guest

- Participated in a panel discussion on ethical implications of deploying AI in healthcare under clinical setting.