

Yongan Yu

Montréal, Quebec

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Personal Website: https://michaelyya.github.io/Michael_Portfolio/

EDUCATION:

McGill University

Bachelor in Computer Science Major and Geographical Information System minor

- CIHR, Canadian Inst of Health Research Award 2023

AUGUST 2022 - JULY 2026

MONTRÉAL, QUEBEC

SKILLS:

- Languages: Mandarin (native), English (fluent), French (elementary)
- Programming: Python, Java, C/C++, R, Jamovi, CSS, HTML, Javascript, React, MIPS/Assembly, Bash, xml
- Tools: Git, Streamlit, CompuCell3D, ArcGIS, VScode, Linux, Matplotlib, Cmake, Pandas, NumPy, SciPy

PROJECTS:

Business evaluation AI model | GPT-4, OpenAI Embeddings API, Python, Scipy, Numpy, Streamlit

- Developed an algorithmic AI model to generate ratings for circular businesses and evaluated them based on extracted factors including the embedded value of the product, level of access to the materials involved, and level of processing needed
- Accomplished a chatbot that stored in-chat memory and included contextual information to provide grounded responses
- Established the user interface and augmented the application with a search engine by using Streamlit
- <https://github.com/techandy42/GreenTechGuardians>

Vertex-Based Cell Model | C#, XML, Python, Cmake, Paraview

- Modeled a 3D cell-based simulation by CompuCell3D to investigate how macrophages destroy the membrane and affect cell mitosis in the epithelial layer
- Compiled a parallel center mass graph window to track cell simulation and analyze them by the CPM (GGH) algorithm
- Generated Chaste source code from Oxford University through a Linux environment through Cmake and Javac
- <https://github.com/Michaelyya/CellModel-making>

WORK EXPERIENCE:

Undergraduate Researcher

Harvard Business School

- Implemented an app that VCs can use to make investments and improve startup ideas, which companies can use to make decisions on how to expand interests
- Estimated a business opportunity from waste and pollution, keeping products and materials in use, and regenerating natural systems
- Conducted research on successful startups based on the Harvard Circular Economy Database

JANUARY 2024 - PRESENT
HARVARD UNIVERSITY

Undergraduate Research Assistant

Rosalind & Morris Goodman Cancer Institute

- Contributed to modeling cell simulation to assist in studying the cellular and molecular mechanisms of cancer initiation and progression
- Solved ODEs and PDEs for computing the deformation of a nonlinearly elastic body and advanced robust computational models
- Investigated novel mechanisms by which tissue organization and polarity are regulated during cancer progression

SEPTEMBER 2022 - PRESENT
MCGILL UNIVERSITY

Teaching Assistant

JNC Study Abroad Platform

- Implemented developmentally courses "Calculus I" around 38 students at Jinan University
- Independently Held office hours, organized discussion sessions, and corrected homework assignments

APRIL 2023 - JUNE 2023
GUANGZHOU, CHINA