

Jay Mody

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Skills

Languages Python, C/C++, Java, JavaScript, Shell, SQL, HTML/CSS
Tools TensorFlow, PyTorch, Flask, OpenCV, React.js, Docker, Google Cloud SDK, Git

Experience

Leaders Prize | Top 5 Finalist

Nov 2019 – July 2020

- Placed **Top 5** as an individual against **150+ teams** across Canada competing for **Canada's Largest AI Competition**, offering **\$1,000,000** to the individual/team that best automated the detection of fake news using AI ([article](#))
- Achieved **70%** performance compared to the human baseline by combining contemporary research in neural language modeling and document reranking into a multi-stage NLP pipeline using **Python**, **PyTorch**, and **Docker**

Magarvey Lab | ML Engineer

May 2019 – May 2020

- Increased **f-1 accuracy** by **27% (0.62 to 0.79)** for protein substrate prediction by developing a **Python** software package that adapted **BERT** for training and deployment on biosynthetic "languages" (e.g. DNA Sequences)
- Advised lab projects on feasible machine learning approaches to novel research problems in biochemistry, with the goal of accelerating the process of drug discovery using statistical and deep learning approaches

Awards & Leadership

McCall MacBain International Fellow

Jan 2020 – [Present](#)

- Awarded a **\$24,000** scholarship as **1 of 40 fellows** for the McCall MacBain exchange program awarded to high-achieving undergraduate students who want to expand their University experience by undertaking a full year abroad with the purpose of learning the language/culture of the chosen host country (**Japan**, departing Sept. 2021)

McMaster AI Society | Vice-President

Sept 2019 - [Present](#)

- Increased attendance and club activity by spearheading the club's digital transformation to a unified platform (Microsoft Teams) for all communications and virtual events with our **1400+ members**
- Oversaw all internal operations, logistics, and management of our **50+ member executive team** across **4 divisions**

Canada's Top Student Competition (Scotiabank)

Jan 2019 – Feb 2019

- Placed **1st** overall against hundreds of University students across Canada by competing in 3 rounds of case competitions testing entrepreneurship, creativity, and communication skills ([article](#))

Education

McMaster University | Software Engineering (B. Eng)

Sept 2018 - [Apr 2022](#)

- GPA:** 3.9/4.0
- Google DSC Core Team:** Developing workshops and talks with a focus on AI/ML to a chapter of over 200 students
- Teaching Assistant:** 1Z03 AI Innovative Technologies (Summer 2020) with Rhodes Scholar Prof. Matthew Jordan
- Research Assistant:** C++ computer vision programmer for the Department of Electrical and Computer Engineering
- Notable Courses:** Data Structures and Algorithms, Concurrency, Discrete Math I and II, Databases

Projects

Drone Swarm | C++, OpenCV

[github.com/jaymody/hackwescam](#)

- Won **1st place** prize of **\$4000** at Hackwescam 2019 by designing a multi-drone control system for target detection

NumPy-ML | Python, Open Source

[github.com/ddbourgin/numpy-ml](#)

- Cut computation time by **50%** for activation function gradient calculations for a popular open source machine learning repository with over **9000 stars** on GitHub

Personal Website | JavaScript, React.js

[github.com/jaymody/jaymody.github.io](#)

- Interactive website ([jaykmody.com](#)) created using **React.js** to mimic Tinder's swipeable cards