



**NICOLE XI ZHANG**, Class of 2030

Education: BSc (Biochemistry & Math), McMaster University, MSc (Bioinformatics), University of British Columbia

Supervisor(s): Yoshua Bengio, Mathieu Blanchette

Dpt: Compute Science

Work location: Mila - Quebec AI Institute

Project: Modelling gene regulatory network and causal structure using generative deep learning frameworks.

Selected Award(s): NSERC Canada Graduate Scholarship – Master’s (CGS-M), NSERC Collaborative Research and Training Experience (CREATE) program

### Research Description

Modelling gene regulatory network and causal structure using generative deep learning frameworks. This involves using sequencing data from single cell resolution to map out the cellular trajectory with perturbation or time series.

### Why did you decide to pursue both MDCM and PhD degrees? What are your career aspirations?

I always wanted to follow my grandpa's footsteps, who was an aquatic biologist who helped restore the environment from pollution, in using scientific research to benefit humankind. I am especially interested in rare genetic diseases since they are underfunded and are in need of personalized drug therapy. In the future, I wish to become a physician scientist who can harness the power of artificial intelligence to advance precision medicine.

### Why did you choose to study at McGill University?

McGill has great medical education that emphasizes on clinical interactions with the unique TCP component that none of the other medical schools has. As well, Montreal is one of the best cities for AI research in the world with the vibrant community of Mila, Quebec AI Institute. For someone like me who is very passionate about both fields, McGill is my top choice for that reason.

### What aspect of the MD-PhD program do you enjoy the most or are looking forward to?

I look forward to the seminar series and joining the tight-knit community composed of MD-PhDs. Science is always made more exciting with the communication and intersection from different fields.

### What advice do you have for incoming MD-PhD students?

Pursue what really excites you. Life is rarely mapped out in a straight line, and while planning is important it's good to be open-minded. You can only connect the dots backwards.

### What do you like to do in your spare time?

Baking, painting (watercolour, acrylic and digital), playing classical guitar