

# Michael Zhang

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## EDUCATION

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- University of Toronto** *2018 - Present*  
Doctor of Philosophy, Computer Science  
Advised by Professor Jimmy Ba
- University of California, Berkeley** *2017 - 2018*  
Master of Science, Electrical Engineering and Computer Science GPA: 4.000  
Advised by Professor Pieter Abbeel
- University of California, Berkeley** *2014 - 2017*  
Bachelor of Arts, Computer Science GPA: 4.000  
Graduated with Highest Honors (top 3% of class)

## RESEARCH AND INDUSTRY EXPERIENCE

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- Vector Institute** 2018 - Present  
*Student Researcher* *Toronto, Ontario*
- Research on deep learning and reinforcement learning.
- Tesla** June 2022 - August 2022  
*Autopilot Intern* *Palo Alto, California*
- Research and development on algorithms for control
- Google** Feb 2020 - June 2020  
*Research Intern* *Toronto, Ontario*
- Research on offline reinforcement learning advised by Mohammad Norouzi.
- NextAI** 2019  
*Scientist in Residence* *Toronto, Ontario*
- Provide scientific and technical support to start-ups selected in NextAI accelerator.
- LinkedIn** Summer 2018  
*Software Engineer Intern* *Dublin, Ireland*
- Built natural language models to understand what members write about on LinkedIn.
- Berkeley Artificial Intelligence Research** 2016 - 2018  
*Student Researcher* *Berkeley, California*
- Develop reinforcement learning algorithms for training real-world robots, object tracking, and solving sparse reward tasks.
- Workday** Summer 2016  
*Data Science Intern* *Pleasanton, California*
- Model and predict problems that may occur for companies going live on the platform.

## PUBLICATIONS

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- Decomposed Prompting to Answer Questions on a Course Discussion Board**  
Brandon Jaipersaud, Paul Zhang, Jimmy Ba, Andrew Petersen, Lisa Zhang, Michael R. Zhang  
International Conference on Artificial Intelligence in Education 2023

### **Multi-Rate VAE: Train Once, Get the Full Rate-Distortion Curve**

Juhan Bae, Michael R. Zhang, Michael Ruan, Eric Wang, So Hasegawa, Jimmy Ba, Roger Grosse  
International Conference on Learning Representations (ICLR) 2023 - top 5% of accepted papers

### **Learning Domain Invariant Representations in Goal-conditioned Block MDPs**

Beining Han, Chongyi Zheng, Harris Chang, Keiran Paster, Michael R. Zhang, Jimmy Ba  
Neural Information Processing Systems (NeurIPS) 2021

### **Analyzing Monotonic Linear Interpolation in Neural Network Loss Landscapes**

James Lucas, Juhan Bae, Michael R. Zhang, Stanislav Fort, Richard Zemel, Roger Grosse  
International Conference on Machine Learning (ICML) 2021

### **Autoregressive Models for Offline Reinforcement Learning**

Michael R. Zhang, Tom Le Paine, Ofir Nachum, Cosmin Paduraru, George Tucker, Ziyu Wang,  
Mohammad Norouzi

International Conference on Learning Representations (ICLR) 2021

### **Benchmarks for Deep Off-Policy Evaluation**

Justin Fu, Mohammad Norouzi, Ofir Nachum, George Tucker, Ziyu Wang, Alexander Novikov, Mengjiao Yang, Michael R. Zhang, Yutian Chen, Aviral Kumar, Cosmin Paduraru, Sergey Levine, Tom Le Paine  
International Conference on Learning Representations (ICLR) 2021

### **Objective Social Choice: Using Auxiliary Information to Improve Voting Outcomes**

Silviu Pitis, Michael R. Zhang

International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2020

### **Lookahead Optimizer: $k$ steps forward, 1 step back**

Michael R. Zhang, James Lucas, Geoffrey Hinton, Jimmy Ba

Neural Information Processing Systems (NeurIPS) 2019

### **Reverse Curriculum Generation for Reinforcement Learning**

Carlos Florensa, David Held, Markus Wulfmeier, Michael Zhang, Pieter Abbeel

Conference on Robot Learning (CoRL) 2017

### **Probabilistically Safe Policy Transfer**

David Held, Zoe McCarthy, Michael Zhang, Fred Shentu, Pieter Abbeel.

IEEE International Conference on Robotics and Automation (ICRA) 2017

#### *Workshops*

### **Robustness to Adversarial Gradients: A Glimpse Into the Loss Landscape of Contrastive Pre-training**

Phil Fradkin, Lazar Atanackovic, Michael R. Zhang

ICML 2022 Pre-training Workshop

## **TEACHING**

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#### *Lecturing*

**University of Toronto CSC311: Introduction to Machine Learning:** Winter 2023

#### *Teaching Assistant*

**University of Toronto CSC311: Introduction to Machine Learning:** Fall 2021 (head TA)

**University of Toronto CSC2547: Introduction to Reinforcement Learning:** Winter 2020

**Vector Institute: Deep Learning Applications:** Fall 2020

**University of Toronto CSC421/2516: Neural Networks and Deep Learning:** Winter 2019

**University of Toronto CSC2541: Deep Reinforcement Learning:** Fall 2018

**UC Berkeley CS170: Introduction to Algorithms:** Spring 2018

UC Berkeley CS189: Introduction to Machine Learning: Spring 2017, Fall 2017  
UC Berkeley CS70: Discrete Mathematics and Probability: Spring 2016, Fall 2016

## SELECTED HONORS

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**Schwartz Reisman Fellow, 2023-2024**

**NSERC Canada Graduate Scholarship - Doctoral, 2021-2024**

**Ontario Graduate Scholarship, 2021** (respectfully declined)

**National Science Foundation Graduate Research Fellowship, 2018** (respectfully declined)

**Siebel Scholar, 2018**

National award to 90 graduate students for outstanding academic performance and leadership

**UC Berkeley Outstanding Graduate Student Instructor Award, 2017**

Award given to the top 10% of teaching assistants based on faculty nominations and reviews

**UC Berkeley Leadership Award**

Merit-based scholarship for leadership impacting academic, work, and community

## LEADERSHIP AND SERVICE

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**Paper reviewing** ICLR (2020-23), ICML {2020,2022-23}, Neurips {2021-22}, TMLR

**Toronto CS Graduate Application Assistance Program** 2021 - Present

Organized program to provide application review, targeting those from underrepresented groups

**AI Safety Reading Group** Jan 2023 - Present

Organize reading group/seminar on topics in responsible and safe AI

**Self-Organizing Conference on Machine Learning** Nov 2019

Led breakout session on deep learning and social chair

**Her Code Camp Volunteer** Sep 2019

**Robot Learning Lab Outreach** 2017 - 2018

Coordinate lab outreach program to provide tours and robot demo to visitors of various ages

**Berkeley AI & AI4All Camp Volunteer** June 2017

**Machine Learning at Berkeley** 2017

Led technical consulting project to delight images with Unity Technologies

**Computer Science Mentors** 2016

Develop materials and led small group tutoring sessions