

Mingde "Harry" Zhao



Better humanity via the meaningful studies of artificial intelligence!

BASICS

Email: mingde.zhao@outlook.com **Address:** Montréal, Québec, Canada

Home Page: mingde.world **Language:** English (native), Mandarin (母语), French (élémentaire)

RESEARCH INTERESTS

Essence of Learning Reinforcement learning, Meta-Learning, System 2 (Consciousness)

Theory Geometry, Optimization, Theories of Machine Learning, Linear Algebra, Estimation Theory

Techniques Numerical Optimization, Evolutionary strategies, Deep Learning

EDUCATION

Doctor of Philosophy, Computer Science 2020 – Present

[Mila \(L'institut québécois d'intelligence artificielle\)](#) / [McGill University](#)

Advisors: [Doina Precup \(Mila, DeepMind, McGill\)](#) & [Yoshua Bengio \(Mila, UdeM\)](#)

Master of Science, Computer Science 2018 – 2020

[Mila](#) / [McGill University](#), CGPA: 4.0 / 4.0

Advisors: [Doina Precup](#) & [Xiao-Wen Chang \(McGill\)](#)

Bachelor of Engineering, Computer Science and Technology (Honors) 2014 - 2018

[Dalian University of Technology](#), GPA: CS-related Course 92.1%, 90.8% Overall

PAPERS (CONFERENCE)

- "[META-Learning State-based Eligibility Traces for More Sample-Efficient Policy Evaluation](#)" – **Mingde Zhao***, Sitao Luan*, Ian P. Porada*, Xiao-Wen Chang and Doina Precup @ [AAMAS 2020](#). *: Equal Contribution.
- "[Break the Ceiling: Stronger Multi-scale Deep Graph Convolutional Networks](#)" – Sitao Luan*, **Mingde Zhao***, Xiao-Wen Chang, Doina Precup @ [NeurIPS 2019](#). *: Equal Contribution.
- "[Exploring Overall Contextual Information for Image Captioning in Human-Like Cognitive Style](#)" - Hongwei Ge, Zehang Yan, Kai Zhang, **Mingde Zhao** and Liang Sun @ [ICCV 2019](#).
- "[Strategy Selection in Complex Game Environments based on Transfer Reinforcement Learning](#)" – Hongwei Ge, **Mingde Zhao**, Kai Zhang and Liang Sun @ [IJCNN 2019](#).
- "[Multi-Grained Cascade AdaBoost Extreme Learning Machine for Feature Representation](#)" – Hongwei Ge, Weiting Sun, **Mingde Zhao**, Kai Zhang, Liang Sun and Chao Yu @ [IJCNN 2019](#).
- "[A Selective Ensemble Learning Framework for ECG-Based Heartbeat Classification with Imbalanced Data](#)" - Hongwei Ge, Keyi Sun, Liang Sun, **Mingde Zhao**, and Chunguo Wu @ [BIBM 2018](#).
- "[A Many Objective Evolutionary Algorithm with Fast Clustering and Reference Point Redistribution](#)" - **Mingde Zhao**, Hongwei Ge, Hongyan Han and Liang Sun @ [CEC 2018](#).

PAPERS (JOURNAL)

Last Edit: 9/13/2020 12:55:15 AM

- "[A Two-Engine Interaction Driven Many-Objective Evolutionary Algorithm with Feasibility-Aware Adaptation](#)" - **Mingde Zhao**, Hongwei Ge, Kai Zhang and Yaqing Hou @ [Applied Soft Computing](#), 2019.
- "[Stacked Denoising Extreme Learning Machine Autoencoder based on Graph Embedding for Feature Representation](#)" - Hongwei Ge, Weiting Sun, **Mingde Zhao** and Yao Yao @ [IEEE Access](#), 2019.
- "[An Interactive Many Objective Evolutionary Algorithm with Cascade Clustering and Reference Point Incremental Learning](#)" - Hongwei Ge*, **Mingde Zhao***, Liang Sun, Zhen Wang, Guozhen Tan, Qiang Zhang and C. L. Philip Chen @ [IEEE Transactions on Evolutionary Computation](#), 2018. *: *Equal Contribution*.

PAPERS (NON-ARCHIVAL) & SOFTWARE TOOLS

- "[Training Matters: Unlocking Potentials of Deeper Graph Convolutional Neural Networks](#)" - Sitao Luan*, **Mingde Zhao***, Xiao-Wen Chang, Doina Precup @ [NeurIPS 2020](#), under review. *: *Equal Contribution*.
- "[Complete the Missing Half: Augmenting Aggregation Filtering with Diversification for Graph Convolutional Networks](#)" - Sitao Luan*, **Mingde Zhao***, Chenqing Hua*, Xiao-Wen Chang, Doina Precup, [NeurIPS 2020](#), under review. *: *Equal Contribution*.
- "[Generalizable Meta-Heuristic based on Temporal Estimation of Rewards for Large Scale Blackbox Optimization](#)" - **Mingde Zhao***, Hongwei Ge*, Yi Lian and Kai Zhang @ arXiv. *: *Equal Contribution*.
- "[SOOPLAT: An Experimental Platform for Single Objective Optimization](#)" - **Mingde Zhao** @ [GitHub](#), 2018.

PATENTS

- "[Fast Dichotomic CNN for Hierarchical Traffic Sign Identification](#)" - Hongwei Ge, **Mingde Zhao**, Xin Yang @ [SIPO](#) (National Patent Office of China), Oct. 2018
- "[Peach Flesh Segmentation with Deep Reinforcement Learning](#)" - Hongwei Ge, **Mingde Zhao**, Jiaojiao Lin, Liang Sun @ [SIPO](#), Jun. 2018.

BEYOND STUDYING & RESEARCH

McGill University, Teaching Assistant (Numerical Computing, COMP 350)	2019, 2020
CIFAR Deep Learning & Reinforcement Learning Summer School	2019, 2020
Neusoft Dalian , Research Engineer Intern	2016, 2017

HONORS & AWARDS

Master:

- DeepMind Graduate Award (2019).
- Graduate Mobility Award (2019).

Undergraduate:

- Scholarships for Academic Excellence for each undergraduate school year (2015 - 2018).
- Outstanding Bachelor Thesis (2018).
- Outstanding Student Researcher of the Year (2018).