

Mingde "Harry" Zhao



BASICS

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Languages: English (native), 汉语(母语), français (un peu)

MY DREAM

Make humanity better through the meaningful studies of artificial intelligence!

RESEARCH INTERESTS

Essence of Learning: Reinforcement learning, Meta-Learning

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

Techniques: Numerical Optimization, Evolutionary strategies, Deep Learning

EDUCATION BACKGROUND

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

Sep. 2018 - Now

Major: [Computer Science](#), Master of Science

CGPA: 4.0 / 4.0

Supervisors: Prof. [Doina Precup](#) (Mila, DeepMind, McGill) & Prof. [Xiao-Wen Chang](#) (McGill)

[Dalian University of Technology](#)

Sep. 2014 - Jun. 2018

Major: [Computer Science and Technology](#), Honored Bachelor of Engineering

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 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)

- ["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: A Convenient 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 & RESEACH

McGill University, Teaching Assistant (Numerical Computing, COMP 350)	Sep. 2019 – Dec. 2019
CIFAR Deep Learning & Reinforcement Learning Summer School	Jul. 2019 - Aug. 2019
Neusoft Dalian , Research Engineer	Jan. 2017 - Feb. 2017, Jul. 2016 - Aug. 2016

HONORS

Master:

DeepMind Graduate Award (2019).

Graduate Mobility Awards (2019).

Undergraduate:

Scholarships for Academic Excellence for each undergraduate school year (2015, 2016, 2017, 2018).

Honored bachelor (2018).

Outstanding bachelor thesis (2018).

Outstanding student researcher of the year (2018).