

Mingde "Harry" Zhao



BASICS

Email: mingde.zhao@mail.mcgill.ca Location: Montréal, Québec, Canada

Home Page: mingde.world Languages: English (native), Mandarin (母语), French (intermédiaire)

RESEARCH INTERESTS

Reasoning, Planning, Reinforcement Learning, Neuro-Inspired AI, Meta-Learning

EDUCATION

Doctor of Philosophy, Computer Science 2020 - Now

Mila (L'institut québécois d'intelligence artificielle) / McGill University, CGPA: 4.0/4.0

Advisors: Doina Precup & Yoshua Bengio

Master of Science, Computer Science 2018 - 2020

Mila / McGill, CGPA: 4.0/4.0; Advisors: Doina & Xiaowen Chang

Bachelor of Engineering, Computer Science & Technology 2014 - 2018

Dalian University of Technology, GPA: 90.0%+; Advisor: Hongwei Ge

PAPERS (CONFERENCE)

- "Temporal Abstractions-Augmented Temporally Contrastive Learning: An Alternative to the Laplacian in RL" - A. Erraqabi, M.C. Machado, **M.Z.***, S. Sukhbaatar, A. Lazaric, L. Denoyer, Y. Bengio @ **UAI 2022**.
- "A Consciousness-Inspired Planning Agent for Model-Based Reinforcement Learning" - **M.Z.***, Z. Liu*, S. Luan*, S. Zhang*, D. Precup, Y. Bengio @ **NeurIPS 2021**.
- "META-Learning State-Based Eligibility Traces for More Sample-Efficient Policy Evaluation" - **M.Z.***, S. Luan*, I. Porada*, X.W. Chang & D. Precup @ **AAMAS 2020**.
- "Break the Ceiling: Stronger Multi-Scale Deep Graph Convolutional Networks" - S. Luan*, **M.Z.***, X.W. Chang & D. Precup @ **NeurIPS 2019**.
- "Exploring Overall Contextual Information for Image Captioning in Human-Like Cognitive Style" - H. Ge, Z. Yan, K. Zhang, **M.Z.** & L. Sun @ **ICCV 2019**.
- "Two-stage Automatic Image Annotation Based on Latent Semantic Scene Classification" - H. Ge, K. Zhang, Y. Hou, C. Yu, **M.Z.**, Z. Wang & L. Sun @ **IJCNN 2020**.
- "Strategy Selection in Complex Game Environments based on Transfer Reinforcement Learning" - H. Ge, **M.Z.**, K. Zhang & L. Sun @ **IJCNN 2019**.
- "Multi-Grained Cascade AdaBoost Extreme Learning Machine for Feature Representation" - H. Ge, W. Sun, **M.Z.**, K. Zhang, L. Sun & C. Yu @ **IJCNN 2019**.
- "A Selective Ensemble Learning Framework for ECG-Based Heartbeat Classification with Imbalanced Data" - H. Ge, K. Sun, L. Sun, **M.Z.** & C. Wu @ **BIBM 2018**.
- "A Many Objective Evolutionary Algorithm with Fast Clustering & Reference Point Redistribution" - **M.Z.**, H. Ge, H. Han & L. Sun @ **CEC 2018**.

* Equal Contributions

PAPERS (JOURNAL)

- *"Bi-space Interactive Cooperative Coevolution for Large Scale Blackbox Optimization"* – H. Ge, **M.Z.**, Y. Hou, K. Zhang, L. Sun, G. Tan, Q. Zhang, C.L.P. Chen @ *Applied Soft Computing*, 2020.
- *"A Two-Engine Interaction Driven Many-Objective Evolutionary Algorithm with Feasibility-Aware Adaptation"* – H. Ge, **M.Z.**, K. Zhang & Y. Hou @ *Applied Soft Computing*, 2019.
- *"Stacked Denoising Extreme Learning Machine Autoencoder based on Graph Embedding for Feature Representation"* – H. Ge, W. Sun, **M.Z.** & Y. Yao @ *IEEE Access*, 2019.
- *"An Interactive Many Objective Evolutionary Algorithm with Cascade Clustering & Reference Point Incremental Learning"* – H. Ge*, **M.Z.***, L. Sun, Z. Wang, G. Tan, Q. Zhang & C.L.P. Chen @ *IEEE Transactions on Evolutionary Computation*, 2018.

PAPERS (NON-ARCHIVAL)

- *"Revisiting Heterophily For Graph Neural Networks"* – S. Luan, C. Hua, Q. Lu, J. Zhu, **M.Z.**, S. Zhang, X.W. Chang, D. Precup @ submitted to ICML 2022.
- *"Training Matters: Unlocking Potentials of Deeper Graph Convolutional Neural Networks"* – S. Luan*, **M.Z.***, X.W. Chang & D. Precup @ arXiv, 2020.
- *"Complete the Missing Half: Augmenting Aggregation with Diversification for Graph Convolutional Networks"* – S. Luan*, **M.Z.***, C. Hua*, X.W. Chang & D. Precup @ arXiv, 2020.
- *"Generalizable Meta-Heuristic based on Temporal Estimation of Rewards for Large Scale Blackbox Optimization"* – **M.Z.***, H. Ge*, Y. Lian & K. Zhang @ arXiv, 2018.
- *"SOOPLAT: An Experimental Platform for Single Objective Optimization"* – **M.Z.** @ *GitHub*, 2018.

PATENTS & SOFTWARE TOOLS

- *"Fast Dichotomic CNN for Traffic Sign Identification"* – H. Ge, **M.Z.**, X. Yang @ *SIPO*, 2018
- *"Peach Segmentation with Deep Reinforcement Learning"* – H. Ge, **M.Z.**, J. Lin, L. Sun @ *SIPO*, 2018.

WORK & TRAINING EXPERIENCE

Research Intern @ <i>Microsoft Research (Montreal)</i>	2022 - Now
Research Scientist @ <i>Haiper LTD</i>	2021 - Now
Teaching Assistant @ <i>McGill University</i>	2019 - 2021
<i>CIFAR Deep Learning & Reinforcement Learning Summer School</i>	2019, 2020
Research Engineer Intern @ <i>Neusoft (Dalian)</i>	2016, 2017

HONORS & AWARDS

Ph.D.:

FRQNT Ph.D. Fellowship (1st-place of 2020 applicants)

Master:

DeepMind Graduate Award (2019).

Graduate Mobility Award (2019).

Undergraduate:

Academic Excellence Awards (2015 - 2018).

Outstanding Bachelor Thesis (2018).

Outstanding Student Researcher of the Year (2018).

