

Mingde "Harry" Zhao



BASICS

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

Homepage: <http://mingde.world> Languages: English (native), 汉语(母语), Français (avancé)

RESEARCH INTERESTS

AGI, 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

PAPER HIGHLIGHTS (CONFERENCE; Check [Google Scholar](#) for complete list)

- *"Combining Spatial and Temporal Abstraction in Planning for Better Generalization"* - M.Z., S. Alver, H. van Seijen, R. Laroché, D. Precup, Y. Bengio @ [ICLR 2024](#) (under review).
- *"Training Matters: Unlocking Potentials of Deeper Graph Convolutional Neural Networks"* - S. Luan*, M.Z.*, X.W. Chang & D. Precup @ [Complex Networks 2023](#), ORAL.
- *"Revisiting Heterophily For Graph Neural Networks"* - S. Luan, C. Hua, Q. Lu, J. Zhu, M.Z., S. Zhang, X.W. Chang, D. Precup @ [NeurIPS 2022](#).
- *"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](#).
- *"Strategy Selection in Complex Game Environments based on Transfer Reinforcement Learning"* - H. Ge, M.Z., K. Zhang & L. Sun @ [IJCNN 2019](#).
- *"A Many Objective Evolutionary Algorithm with Fast Clustering & Reference Point Redistribution"* - M.Z., H. Ge, H. Han & L. Sun @ [CEC 2018](#).

* Equal Contributions


PAPER HIGHLIGHTS (JOURNAL; Check [Google Scholar](#) for complete list)

- "Clothes-Changing Person Re-Identification via Universal Framework with Association and Forgetting Learning" – Y. Liu, H. Ge, Z. Wang, Y. Hou, **M.Z.** @ IEEE Transactions on Multimedia, 2023.
- "Discriminative Identity-Feature Exploring and Differential Aware Learning for Unsupervised Person Re-Identification" – Y. Liu, H. Ge, Z. Wang, Y. Hou, **M.Z.** @ IEEE Transactions on Multimedia, 2023.
- "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.
- "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; Check [Google Scholar](#) for complete list)

- "Complete the Missing Half: Augmenting Aggregation with Diversification for Graph Convolutional Networks" – S. Luan*, **M.Z.***, C. Hua*, X.W. Chang & D. Precup @ NeurIPS 2022, New Frontiers in Graph Learning Workshop, ORAL.

SOFTWARE & PATENTS (Check [GitHub](#) for more)

- "Captur3": turning iPhones into 3D scanners, upload your favs to the metaverse 
- "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, VOLUNTEERING

Research Intern @ Borealis AI (Montreal)	2024 (starting soon)
Research Scientist @ Haiper (Canada)	2021 - 2023
Research Intern @ Microsoft Research (Montreal)	2022 - 2023
Conference Paper Reviewer @ NeurIPS	2022
CIFAR Deep Learning & Reinforcement Learning Summer School	2019, 2020
Teaching Assistant @ McGill University	2019 - 2021

HONORS & AWARDS

Ph.D.:

FRQNT Ph.D. Fellowship (1st-place recipient, 2020)

Master:

DeepMind Graduate Award (2019)

Undergraduate:

Academic Excellence Awards (2015 - 2018)

Outstanding Bachelor Thesis (2018)

Outstanding Student Researcher of the Year (2018)

