

# Mingde "Harry" Zhao

PhD Candidate @ McGill, Researcher @ Mila, Research Scientist @ Haiper



## BASICS

---

Email: [mingde.zhao@mail.mcgill.ca](mailto:mingde.zhao@mail.mcgill.ca) Location: Montréal, Québec, Canada

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

## 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)

---

- "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.
- "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.

---

\* Equal Contributions

- *"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**.

## **PAPERS (JOURNAL)**

---

- *"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.
- *"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)**

---

- *"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**

---

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

## **WORK EXPERIENCE**

---

Research Scientist @ <b>Haiper LTD</b>	2021 - Now
Research Intern @ <b>Microsoft Research (Montreal)</b>	2022 - 2023
Conference Paper Reviewer @ <b>NeurIPS</b>	2022
Teaching Assistant @ <b>McGill University</b>	2019 - 2021

## **HONORS & AWARDS**

---

### **Ph.D.:**

**FRQNT** Ph.D. Fellowship (*1<sup>st</sup>-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)

