Mingde "Harry" Zhao

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

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

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. Laroche, D. Precup, Y. Bengio @ ICLR 2024 (in 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! Download on the App Store

WORK EXPERIENCE

Research Scientist @ Haiper LTD	2021 - Now
Research Intern @ Microsoft Research (Montreal)	2022 - 2023
Conference Paper Reviewer @ NeurIPS	2022
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)