Li Ding

CONTACT	✉ liding@{umass.edu, mit.edu}	📍 San Jose, CA	🌐 https://liding.info

SUMMARY
I develop efficient learning algorithms for large models, focusing on alignment (RLHF) and open-endedness.

EDUCATION

University of Massachusetts Amherst — Amherst, MA
Ph.D. in Computer Science — 2020.9 - (expected) 2024.9
- Advisor & Mentors (UMass CICS): Prof. Lee Spector, Prof. Scott Niekum, Prof. Subhransu Maji.
- Collaborators: Prof. Jeff Clune (UBC, DeepMind), Joel Lehman (Stability AI), Masrour Zoghi (Google).

Massachusetts Institute of Technology — Cambridge, MA
Graduate Study in Computer Science (non-degree) — 2019.9 - 2020.1

University of Rochester — Rochester, NY
M.S. in Data Science — 2016.6 - 2017.5
- Advisor: Prof. Chenliang Xu.

EXPERIENCE

Google Research — US, Remote
Research Intern — 2023.6 - 2023.9
- Project: Meta-optimization for knowledge distillation.
- Hosts: Masrour Zoghi & Maryam Karimzadehgan.

Carper (Stability AI) — US, Remote
Student Collaborator — 2023.2 - 2023.6
- Project: Optimization with diversity from human feedback.
- Host: Joel Lehman.

Meta — Burlingame, CA
Research Scientist Intern — 2022.5 - 2022.8
- Project: Image segmentation for AR/VR.
- Hosts: Wenliang Zhao & Hang Zhang.

Massachusetts Institute of Technology — Cambridge, MA
Research Affiliate — 2020.7 - 2021.6
Research Engineer — 2017.9 - 2020.6
- Project: Deep learning for driving scene perception and driver monitoring systems.
- PIs: Lex Fridman & Bryan Reimer.

PUBLICATIONS
(SELECTED)
- L. Ding, J. Zhang, J. Clune, L. Spector, and J. Lehman, "Quality diversity through human feedback," in *NeurIPS: Workshop on Agent Learning in Open-Endedness **(Spotlight)***, 2023
- L. Ding, M. Zoghi, G. Tennenholtz, and M. Karimzadehgan, "Ever evolving evaluator: Towards flexible and reliable meta-optimization for knowledge distillation," in *NeurIPS: Workshop on Adaptive Experimental Design and Active Learning in the Real World*, 2023
- L. Ding, E. Pantridge, and L. Spector, "Probabilistic lexicase selection," in *Proceedings of the Genetic and Evolutionary Computation Conference **(GECCO)***, 2023
- L. Ding and L. Spector, "Optimizing neural networks with gradient lexicase selection," in *International Conference on Learning Representations **(ICLR)***, 2022

- L. Ding, J. Terwilliger, A. Parab, M. Wang, L. Fridman, B. Mehler, and B. Reimer, "CLERA: A unified model for joint cognitive load and eye region analysis in the wild," *ACM Transactions on Computer-Human Interaction (**TOCHI**)*, vol. 30, no. 6, 2023
- L. Ding, J. Terwilliger, R. Sherony, B. Reimer, and L. Fridman, "Value of temporal dynamics information in driving scene segmentation," *IEEE Transactions on Intelligent Vehicles (**T-IV**)*, 2021
- L. Ding and C. Xu, "Weakly-supervised action segmentation with iterative soft boundary assignment," in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2018
- L. Fridman, H. Schmidt, J. Terwilliger, and L. Ding, "Human interaction with deep reinforcement learning agents in virtual reality," in ***NeurIPS***: *Deep Reinforcement Learning Workshop*, 2018

FUNDING, HONORS, AND AWARDS		
Conference Scholarship ($3,000), *Google*.		2023
SOAR (Supporting Open Access Research) Fund ($1,200), *UMass Amherst*.		2023
4th Place (among 150 teams, top 3%), *MIT Miniplaces Challenge*.		2019
Graduate Tuition Scholarship ($20,000), *University of Rochester*.		2016
Meritorious Winner (top 5%), *COMAP's Mathematical Contest In Modeling*.		2015

TEACHING

University of Massachusetts Amherst
- TA for COMPSCI 230: Computer Systems Principles. — 2021

Massachusetts Institute of Technology
- TA for 6.S094: Deep Learning for Self-Driving Cars. — 2018 - 2019
- TA for 6.S093: Human-Centered Artificial Intelligence. — 2019
- TA for 6.S099: Artificial General Intelligence. — 2018
- Co-instructor (w/ Tom Bertalan) for MIT Robocar Workshop. — 2018

SERVICES

ACADEMIC
- Ph.D. Admissions Committee (UMass CICS) — 2024

CONFERENCE REVIEWER / PROGRAM COMMITTEE
- International Conference on Learning Representations (ICLR) — 2024
- Conference on Neural Information Processing Systems (NeurIPS) — 2023
- International Conference on Computer Vision (ICCV) — 2023
- Conference on Computer Vision and Pattern Recognition (CVPR) — 2023 - 2024
- British Machine Vision Conference (BMVC) — 2020 - 2021, 2023

JOURNAL REVIEWER
- IEEE Transactions on Intelligent Vehicles
- Quantum Machine Intelligence
- Pattern Recognition

OPEN SOURCE PROJECTS
- `google-research/ev3`: Core contributor of EV3 (a system for meta-learning optimization in JAX).
- `facebookresearch/d2go`: Contributed to D2Go (a system for efficient model training and deployment on mobile platforms).
- `pyribs`: Contributor of pyribs, a bare-bones library for quality diversity optimization.
- `mit-deep-learning`: Created open-access tutorials and coding assignments for MIT Deep Learning courses (9k+ stars on Github).
- `MIT AI Podcast`: Prepared interview materials for an open-access podcast hosted by Lex Fridman (now the *Lex Fridman Podcast*, ranked #1 on Apple Podcasts technology category).