

**RESEARCH SUMMARY** My research focuses on open-ended learning, AI safety, and multimodal generative models, with an emphasis on exploratory and self-supervised optimization. I have worked on enhancing the safety and creativity of generative models through human feedback, and optimizing foundation models via meta-optimization. My work also spans interdisciplinary areas of AI, including quantum machine learning, autonomous driving, and human-computer interaction.

**EDUCATION**

**University of Massachusetts Amherst**  
*Ph.D. in Computer Science* 2020.9 - 2024.7

- Dissertation: “Optimization with intrinsic diversity: Towards generalizable, safe, and open-ended learning”.
- Committee: Lee Spector (Chair), Scott Niekum, Subhansu Maji, Jeff Clune.

**Massachusetts Institute of Technology**  
*Graduate Study in EECS (non-degree)* 2019.9 - 2020.1

**University of Rochester**  
*M.S. in Computational Science* 2016.6 - 2017.5

- Advisor: Chenliang Xu

**WORK EXPERIENCE**

**Google**  
*Machine Learning Engineer* 2024.7 - present

- Parameter-efficient and quantization-aware fine-tuning of multimodal LLMs.
- Development and deployment of hardware-accelerated generative AI agents.

**Massachusetts Institute of Technology**  
*Research Engineer* 2017.9 - 2020.6

- Deep learning for spatiotemporal driving scene perception, MIT DriveSeg dataset.
- Multimodal fusion for human cognitive and mental state assessment.

**INTERNSHIP**

**Google**  
*Research Intern* 2023.6 - 2023.9

- Efficient neural architecture search via meta-learning and knowledge distillation.

**CarperAI**  
*Student Researcher* 2023.2 - 2023.6

- Enhancing the creativity of generative models via learning from human feedback.

**Meta**  
*Research Scientist Intern* 2022.5 - 2022.8

- Transfer learning of vision transformers for AR/VR capabilities.

**SELECTED PUBLICATIONS**

- R. Boldi, L. Ding, L. Spector, and S. Niekum, “Pareto-optimal learning from preferences with hidden context,” *under review at ICLR, to appear at NeurIPS: Pluralistic Alignment Workshop*, 2024
- L. Ding, J. Zhang, J. Clune, L. Spector, and J. Lehman, “Quality diversity through human

[GOOGLE SCHOLAR](#)

feedback: Towards open-ended diversity-driven optimization,” in *ICML*, 2024

- L. Ding, E. Pantridge, and L. Spector, “Probabilistic lexicase selection,” in *GECCO*, 2023
- L. Ding, M. Zoghi, G. Tennenholtz, and M. Karimzadehgan, “Ever evolving evaluator: Towards flexible and reliable meta-optimization for knowledge distillation,” in *NeurIPS: RealML Workshop*, 2023
- 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 Trans. Computer-Human Interaction (TOCHI)*, 2023
- L. Ding and L. Spector, “Optimizing neural networks with gradient lexicase selection,” in *ICLR*, 2022
- L. Ding and L. Spector, “Evolutionary quantum architecture search for parametrized quantum circuits,” in *GECCO Companion*, 2022
- L. Ding, J. Terwilliger, R. Sherony, B. Reimer, and L. Fridman, “Value of temporal dynamics information in driving scene segmentation,” *IEEE Trans. Intelligent Vehicles (T-IV)*, 2021
- L. Ding and C. Xu, “Weakly-supervised action segmentation with iterative soft boundary assignment,” in *CVPR*, 2018

HONORS AND AWARDS	Google Research Travel Scholarship, <i>Google</i> .	2023
	SOAR (Supporting Open Access Research) Fund, <i>UMass Amherst</i> .	2023
	4th Place (among 150 teams, top 3%), <i>MIT Miniplaces Challenge</i> .	2019
	Graduate School Scholarship (\$30,000), <i>University of Rochester</i> .	2016
	Meritorious Winner (top 5%), <i>COMAP’s Mathematical Contest In Modeling</i> .	2015
TEACHING	• TA for MIT 6.S094: Deep Learning for Self-Driving Cars.	2018 - 2019
	• TA for MIT 6.S099: Artificial General Intelligence.	2018
	• Co-instructor (w/ Tom Bertalan) for MIT Robocar Workshop.	2018
COMMUNITY	• Reviewer for ICLR, NeurIPS, JMLR, CVPR, ICCV, ECCV, <i>etc</i> .	2020 - present
	• Ph.D. Admissions Committee (UMass Amherst CICS).	2024
OPEN SOURCE PROJECTS	google-research/ev3: a meta-learning optimization framework in JAX.	
	• Main contributor for implementation and maintenance.	
	pyribs: an open-source library for diversity-driven optimization.	
	• Contributed the demo and tutorial for the QDHF work.	
	mit-deep-learning: MIT Deep Learning open courses (10k+ stars).	
	• Main contributor for tutorials and coding assignments.	
	MIT AI Podcast: now the <i>Lex Fridman Podcast</i> , 4M+ subscribers on Youtube.	
SKILLS	• Helped find candidates and prepare interview materials.	
	Python, C++, JavaScript, PyTorch, JAX, Tensorflow, Git, LLM workflows (instruction-tuning, PEFT, RLHF).	