

Education	University of Southern California Ph.D in Computer Science <i>Advisors: Dani Yogatama, Willie Neiswanger</i>	08/2022 - <i>present</i>
	Carnegie Mellon University B.S + M.S in Machine Learning <i>Magna Cum Laude</i>	08/2013 - 08/2019
Publications	On Retrieval Augmentation and the Limitations of Language Model Training Ting-Rui Chiang, Xinyan Velocity Yu, Joshua Robinson, Ollie Liu , Isabelle Lee, Dani Yogatama https://arxiv.org/abs/2311.09615 . <i>Preprint</i>	
	Interpretable Diffusion via Information Decomposition Xianghao Kong*, Ollie Liu *, Han Li, Dani Yogatama, Greg Ver Steeg https://arxiv.org/abs/2310.07972 . <i>Preprint</i>	
	Approximating CKY with Transformers Ghazal Khalighinejad, Ollie Liu , Sam Wiseman https://arxiv.org/abs/2305.02386 . <i>Findings of EMNLP 2023</i>	
	How Does GPT-2 Compute Greater-Than?: Interpreting Mathematical Abilities in a Pre-Trained Language Model Michael Hanna, Ollie Liu , Alexandre Variengien https://arxiv.org/abs/2305.00586 . <i>NeurIPS 2023</i>	
	*: equal contribution	
Employment Experiences	Research Intern with Qi Liu Reka AI	05/2023 - 07/2023
	Research Resident on Mechanistic Interpretability Redwood Research	01/2023 - 02/2023
	Engineering Intern with Stan Peshterliev Meta Reality Labs	05/2022 - 08/2022
	Engineering Intern with Bryan McCann You.com	02/2022 - 05/2022
	Applied Science Intern with Mehdi Noori Amazon Web Services	07/2021 - 12/2021

Work in Progress	Multi-Modal Decision Transformers <u>Ollie Liu</u> , Willie Neiswanger, Dani Yogatama
	Decision Making under Uncertainty with Foundation Models <u>Ollie Liu</u> , Willie Neiswanger, Dani Yogatama
	Evaluating Math Hallucinations in Large Language Models Harvey Fu, Deqing Fu, <u>Ollie Liu</u> , Dani Yogatama, Robin Jia
	Tuning Soft Instructions with Forward Passes <u>Ollie Liu</u> , Melody Xuan, Dani Yogatama
Honors and Awards	Provost's Fellowship, University of Southern California, 2022 Data Science Fellowship, Northwestern University, 2019 Royal E. Cabell Fellowship, Northwestern University, 2019 Senior Leadership Recognition, Carnegie Mellon University, 2018
Teaching Experiences	Co-Instructor and TA, Machine Learning (Ph.D Elective), NU, Fall 2021 Co-Instructor and TA, Mathematical Statistics (Ph.D Core), NU, Fall 2020 TA, Introduction to Machine Learning (Master), CMU, 2 Semesters. TA, Principles of Computing (Undergraduate), CMU, 4 Semesters.
Relevant Courseworks	Northwestern University: Linear and Nonlinear Programming, Combinatorial Optimization, Stochastic Processes, Asset Pricing Theory Carnegie Mellon University: Advanced Machine Learning, Theoretical Statistics, Deep Learning, Reinforcement Learning, Scalable Learning Systems, Convex Optimization, Continuous-Time Finance
Skills	Software: Python (JAX, PyTorch, Hugging Face), Linux, R, L ^A T _E X Language: Chinese (<i>native</i>), English (<i>proficient</i> , GRE V169+Q168)
Activities	Co-organizer of the USC AI Safety Group . Student organizer of the Center for Optimization and Statistical Learning at Northwestern University.