

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	DeLLMa: A Framework for Decision Making Under Uncertainty with Large Language Models Ollie Liu [*] , Deqing Fu [*] , Dani Yogatama, Willie Neiswanger https://arxiv.org/abs/2402.02392 . <i>Preprint</i>	
	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>ICLR 2024</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

Ollie Liu, Willie Neiswanger, Dani Yogatama

Decision Making under Uncertainty with Foundation Models

Ollie Liu, Willie Neiswanger, Dani Yogatama

Evaluating Math Hallucinations in Large Language Models

Harvey Fu, Deqing Fu, Ollie Liu, Dani Yogatama, Robin Jia

Tuning Soft Instructions with Forward Passes

Ollie Liu, 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, \LaTeX

Language: Chinese (*native*), English (*proficient*, 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.