Shengbang Tong

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Education

New York University, Courant Institute
Aug 2023 - Present

- Ph.D in Computer Science
- Advisors: Prof. Yann LeCun, Prof. Saining Xie

The University of California, Berkeley
Aug 2019 - May 2023

- Bachelor of Arts: Applied Mathematics (Honor), Computer Science, Statistics (Honor)
- GPA: 3.85/4.00
- Advisors: Prof. Yi Ma, Prof. Jacob Steinhardt
- PhD Level Courses: High Dim Data Analysis with Low-Dim Models, Introduction to Machine Learning, Convex Optimization, Optimization Models, Convex Optimization Algorithms, Matrix and Numerical Linear Algebra, Design of Societal Scale System and Games, Deep Reinforcement Learning, Theoretical Statistics

Selected Publications & Preprints

(* means equal contribution, see full publications in https://scholar.google.com/citations?hl=en&user=hYlbtl8AAAAJ)

- **Shengbang Tong***, Erik Jones*, Jacob Steinhardt, *Mass-Producing Failures of Multimodal Models*, Under Review
- **Shengbang Tong***, Yubei Chen*, Yi Ma, Yann Lecun, *EMP-SSL: Towards Self-Supervised Learning in One Training Epoch*, Under Review
- **Shengbang Tong**, Xili Dai, Ziyang Wu, Mingyang Li, Brent Yi, Yi Ma, *Incremental Learning of Structured Representation via Closed-Loop Transcription*, ICLR 2023
- Xili Dai*, **Shengbang Tong***, Mingyang Li*, Ziyang Wu*, Kwan Ho Ryan Chan, Pengyuan Zhai, Yaodong Yu, Michael Psenka, Xiaojun Yuan, Heung Yeung Shum, Yi Ma, *Closed-Loop Transcription to an LDR via Minimaxing Rate Reduction*, Entropy Journal 2021

Research Experiences

Berkeley Artificial Intelligence Research (BAIR), UCB
Oct 2022 - May 2023

Undergraduate Research Assistant, Advisor: Prof. Jacob Steinhardt

- Explored adversarial examples in multimodal models such as Vision Language Models.
- Proposed a novel algorithm for automatically finding failures in multimodal models.

Center for Data Science, NYU
June 2022 - Aug 2022

Summer Research Assistant, Advisor: Prof. Yann LeCun & Dr. Yubei Chen

- Worked on proposing new efficient and effective self-supervised learning methods.
- Leveraged the principle of joint-embedding SSL and improved existing SSL methods.

Berkeley Artificial Intelligence Research (BAIR), UCB
June 2021 - May 2023

Undergraduate Research Assistant, Advisor: Prof. Yi Ma

- Proposed unified learning framework for both discriminative and generative models.
- Developed learning methods in extreme settings such as continual learning and unsupervised learning.
- Explored convolutional sparse modeling layers in deep learning on image classification and generation tasks.

ACADEMIC SERVICES

- Reviewer for ICML 2022/2023, CVPR 2023, ICCV2023, NIPS 2022/2023

SKILLS, CERTIFICATIONS & OTHERS

- Skills**:** PyTorch, Python, JAVA, R, Matlab