Muyang Li

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Education

Massachusetts Institute of Technology Sep. 2023 – Present
Ph.D. student at EECS, advised by Prof. Song Han Cambridge, USA

Carnegie Mellon University Aug. 2021 – May. 2023
Master of Science in Robotics, advised by Prof. Jun-Yan Zhu Pittsburgh, USA

- Quality Point Average (QPA): 4.05/4.33

Shanghai Jiao Tong University Sep. 2016 – Jun. 2020
Bachelor of Engineering in Computer Science Shanghai, China

- Member of ACM Class, an elite CS program for the top 5% talented students.

Research Interests

My research interest is in the intersection of machine learning, system, and computer graphics.
I am currently working on building efficient and hardware-friendly generative models with its applications in computer vision and graphics.

Publications

[1] **Muyang Li***, Tianle Cai*, Jiaxin Cao, Qinsheng Zhang, and Han Cai, Junjie Bai, Yangqing Jia, Ming-Yu Liu, Kai Li, and Song Han, *DistriFusion: Distributed Parallel Inference for High-Resolution Diffusion Models* (**CVPR 2024**)

[2] **Muyang Li**, Ji Lin, Chenlin Meng, Stefano Ermon, Song Han and Jun-Yan Zhu, *Efficient Spatially Sparse Inference for Conditional GANs and Diffusion Models* (**NeurIPS 2022 & T-PAMI 2023**)

[3] Yihan Wang, **Muyang Li**, Han Cai, Wei-Ming Chen and Song Han, *Lite Pose: Efficient Architecture Design for 2D Human Pose Estimation* (**CVPR 2022**)

[4] **Muyang Li**, Ji Lin, Yaoyao Ding, Zhijian Liu, Jun-Yan Zhu, and Song Han, *GAN Compression: Efficient Architectures for Interactive Conditional GANs* (**CVPR 2020 & T-PAMI 2021**)

Experiences

NVIDIA Jun. 2023 – Aug. 2023
Summer Intern Work with Prof. Song Han and Ming-Yu Liu Shanghai, China

Efficient diffusion models.

CMU Generative Intelligence Lab Aug. 2021 – Present
Master's Student Advisor: Prof. Song Han and Prof. Jun-Yan Zhu Pittsburgh, USA

Efficient Spatially Sparse Inference for Conditional GANs and Diffusion Models

- Utilize the spatial sparsity of edited regions to accelerate image editing with deep generative models.
- Implement an engine in Cuda and CPP to achieve speedup on hardware.
- **Accepted by NeurIPS 2022 and T-PAMI 2023.**

OmniML Inc. May 2022 – Aug. 2022
Summer Intern Work with Prof. Song Han San Jose, USA

Efficient vision model deployment on edge devices (e.g., Jetson devices and mobiles).

Dawnlight Inc. Jul. 2020 – Jul. 2021

Data Scientist Work with Prof. Song Han and Prof. Jia Li Shanghai, China

Lite Pose: Efficient Architecture Design for 2D Human Pose Estimation

- Design a light-weighted 2D pose estimation backbone.
- Deploy the model on Jetson Nano and cellphones.
- **Accepted by CVPR 2022.**

MIT HAN Lab Jul. 2019 – Jan. 2020

Research Assistant Advisor: Prof. Song Han and Prof. Jun-Yan Zhu Cambridge, USA

GAN Compression: Efficient Architectures for Interactive Conditional GANs

- Design a general framework to compress the conditional GANs.
- Achieve ultra-high compression rate without losing performance.
- **Accepted by CVPR 2020 and TPAMI 2021.**

Teaching

SJTU ACM Coach Jun. 2018 – Apr. 2019

Coach of ACM Teams Manager: Prof. Yong Yu

SJTU Data Structure (CS147) Mar. 2018 – May. 2018

Teaching Assistant Manager: Prof. Huiyu Weng

Highlighted Projects

GAN Compression (More than 1K stars) Jul. 2019 – Apr. 2020

mit-han-lab/gan-compression

Python A general conditional GAN Compression framework.

SIGE Jul. 2021 – Nov. 2022

lmxyy/sige

Python/C++/Cuda A sparse engine to accelerate image editing with conditional GANs and diffusion models.

Lite Pose Mar. 2021 – Jun. 2022

mit-han-lab/litepose

Python A light-weighted pose estimation model that could run on mobile devices.

Honors and Awards

Gold Medal, Award on CCPC2017 Harbin Regional, Ranked 10th Oct. 2017
Gold Medal, Award on ICPC2017 Qingdao Regional, Ranked 5th Nov. 2017
3rd Runner-up, Award on ICPC2017 Jakarta Regional Nov. 2017
1st Runner-up, Award on Singing Competition of Zhiyuan College in SJTU Dec. 2017
Jin Long Yu Fellowship, Award for top 1% students Dec. 2017
1st Runner up's Coach, Award on ICPC 2018 Pathom Regional Nov. 2018
A-Class School-level Scholarship, Award for top 1% students Dec. 2018
Zhiyuan Honorary Scholarship (3 times), Award for top 5% students 2016, 2017, 2018
Honorable Mention, Award for 2019 American Interdisciplinary Contest in Modeling (ICM) Jan. 2019

Skills

Programming Languages: C++/C/Cuda = Python > Java
Deep Learning Packages: PyTorch, TensorFlow, TVM, TensorRT
Languages: English - Proficient, Mandarin - Native speaker, Japanese - Amateur
Other: Pop Singing