

Mengxi Wu

✉ mengxiwu@usc.edu
🌐 wmx567.github.io

EDUCATION

- University of Southern California** Expected 2027.12
Doctor of Philosophy, Computer Science
- University of Southern California** Expected 2027.5
Master of Arts, Pure Mathematics
- New York University** 2021.5
Master of Science, Computer Science
- University of Michigan, Ann Arbor** 2019.5
Bachelor of Science in Engineering, Electrical Engineering

EXPERIENCE

- USC Information Science Institute** Present
PhD Student, Advised by Prof. Xuezhe Ma
- Conducted research on efficient pre-training of large language models (LLMs) and understanding the mathematical principles underlying training dynamics, including the hyperparameter optimization and optimizers.
- Huawei** 2021.9 - 2022.5
Machine Learning Engineer, Network AI Engine Department
- Developed intelligent systems to detect fire, smoke, and helmet in 2D images captured from cameras on construction sites.
 - Integrated detection models with techniques such as Knowledge Distillation and Memory Replay to enable class-incremental learning.
- NYU Multimedia and Visual Computing Lab** 2021.3 - 2022.5
Research Assistant, Advised by Prof. Yi Fang
- Conducted research on geometric-aware adversarial training methods for 3D point cloud completion.
 - Designed a novel adversarial attack method that constrains adversarial perturbations with absolute minimum curvature direction of original data.
- NYU Algorithms and Foundations Group** 2020.6 - 2022.4
Research Assistant, Advised by Prof. Yi-Jen Chiang and Prof. Christopher Musco
- Conducted research on in situ selection of key time steps for high dimensional time-varying data.
 - Developed a new greedy algorithm with numerical linear algebra techniques to compute linear interpolation solutions and errors in an online streaming fashion.

PUBLICATIONS

- (* indicates equal contribution.)
7. Ehsan Hallaji, Alireza Fathalizadeh, **Mengxi Wu**, Mohammad Rostami, Roozbeh Razavi-Far. “Towards Self-Adaptive Learning: Continual Learning under Harsh Conditions.”
[Submitted](#)
 6. Xuezhe Ma*, Shicheng Wen*, Linghao Jin*, Bilge Acun*, Ruihang Lai*, Bohan Hou, Will Lin, Hao Zhang, Songlin Yang, Ryan Lee, **Mengxi Wu**, Jonathan May, Luke Zettlemoyer, Carole-Jean Wu. “Gecko: An Efficient Neural Architecture Inherently Processing Sequences with Arbitrary Lengths.”
[Preprint](#)

5. Kyle R. Chickering*, Huijuan Wang*, **Mengxi Wu***, Alexander Moreno, Muhao Chen, Xuezhe Ma, Daria Soboleva, Joel Hestness, Zhengzhong Liu, Eric P. Xing. *“GQA- μ P: The Maximal Parameterization Update for Grouped Query Attention and Fully Sharded Data Parallel.”*
Submitted
4. **Mengxi Wu**, Hao Huang, Yi Fang, Mohammad Rostami. *“Curvature Diversity-Driven Deformation and Domain Alignment for Point Cloud.”*
Transactions on Machine Learning Research 2025
3. **Mengxi Wu**, Mohammad Rostami. *“Graph Harmony: Denoising and Nuclear-Norm Wasserstein Adaptation for Enhanced Domain Transfer in Graph-Structured Data.”*
Transactions on Machine Learning Research 2024
2. **Mengxi Wu**, Yi-Jen Chiang, Christopher Musco. *“Streaming Approach to In Situ Selection of Key Time Steps for Time-Varying Volume Data.”*
Eurographics/IEEE Conference on Visualization 2022
1. **Mengxi Wu**, Hao Huang, Yi Fang. *“3D Point Cloud Completion with Geometric-Aware Adversarial Augmentation.”*
International Conference on Pattern Recognition 2022

TEACHING

University of Southern California

CSCI 544 Applied Natural Language Processing, *Teaching Assistant*

CSCI 570 Analysis of Algorithms, *Teaching Assistant*

New York University

ECE-GY 9123 Deep Learning, *Teaching Assistant*

SERVICES

Conference Reviewing

EMNLP, ICLR, ICML

Journal Reviewing

Transactions on Machine Learning Research

SKILLS

Programming Languages

C/C++, Python, Java, R, MATLAB, Swift

Libraries and Tools

PyTorch, Tensorflow, PySpark, Hadoop