

MENGXI WU

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EDUCATION

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

PUBLICATIONS (* indicates equal contribution.)

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*

Kyle R. Chickering*, Huijuan Wang*, **Mengxi Wu***, Alexander Moreno, Muhan 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*

Mengxi Wu, Hao Huang, Yi Fang, Mohammad Rostami. “Curvature Diversity-Driven Deformation and Domain Alignment for Point Cloud.” *Transactions on Machine Learning Research 2025*

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*

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*

Mengxi Wu, Hao Huang, Yi Fang. “3D Point Cloud Completion with Geometric-Aware Adversarial Augmentation.” *International Conference on Pattern Recognition 2022*

RESEARCH EXPERIENCE

USC Information Science Institute <i>PhD Student, Advised by Prof. Xuezhe Ma</i>	Present
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- Conducted research on theoretical foundations of training large language models (LLMs), focusing on optimizers and the theory of hyperparameter optimizations.

NYU Multimedia and Visual Computing Lab <i>Research Assistant, Advised by Prof. Yi Fang</i>	2021.3 - 2022.5
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- 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.

WORK EXPERIENCE

Huawei

2021.9 - 2022.5

Algorithm 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.

TEACHING EXPERIENCE

CSCI 544: Applied Natural Language Processing*Teaching Assistant, University of Southern California***CSCI 570: Analysis of Algorithms***Teaching Assistant, University of Southern California***ECE-GY 9123: Deep Learning***Teaching Assistant, New York University***SERVICES**

Conference Reviewing

EMNLP, ICLR

Journal Reviewing

Transactions on Machine Learning Research

TECHNICAL SKILLS

Programming Languages

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

Libraries and Tools

PyTorch, Tensorflow, PySpark, Hadoop