

Runqian (Ray) Wang

Phone: (609) 619-7152, Email: raywang4@mit.edu

Education

Massachusetts Institute of Technology

Class of 2026

Double Major in Artificial Intelligence and Math

- Related Courses Taken: Distributed Algorithms (Graduate), Probability (Graduate), Computer Vision (Graduate), Machine Learning (Graduate), Natural Language Processing, Linear Algebra, Design and Analysis of Algorithms, Representation, Inference and Reasoning in AI

- GPA: 5.0/5.0

Research Experiences

Researcher at MIT He Vision Group

Apr 2024 – Present

PI: Kaiming He

- Lead research on generative modeling under direct supervision of Prof. Kaiming He
- Plan to submit to ICML 2025

Researcher at MIT-IBM-Watson Lab

Sep 2023 – May 2024

PI: Aude Oliva & Leonid Karlinsky

- Lead research on developing data-free transferrable parameter efficient fine-tuning (PEFT) methods for LLMs
- First author paper accepted at NeurIPS 2024 main conference

Researcher at Microsoft Research Asia

May 2023 – Aug 2023

PI: Zhirong Wu

- Designs state-of-the-art adaptive optimization methods in deep learning
- Work spotlighted on Microsoft official account and nominated as “Star of Tomorrow” researcher

Research Assistant at MIT CSAIL Medical Vision Group

Sep 2022 – May 2023

PI: Polina Golland

- Develops a new deep-learning approach to intravascular ultrasound image analysis under collaboration with MIT-IBM-Watson Lab and Boston Scientific

- Paper accepted at Second International AMAI Workshop

Selected Awards & Programs

USA Computing Olympiad Camp Qualifier

May 2021

- Ranked top 14 among all US high school students in algorithmic design and competitive programming

MIT BattleCode AI Programming Competition 2nd Place

Feb 2023

- Entered final tournament as 1st seed out of 456 teams (1321 competitors) worldwide and ranked 2nd in the finals

Terminal East Coast Regional Competition 3rd Place

Apr 2023

- Won 3rd place among all east coast college contestants in an AI design contest

Jane Street First Year Trading and Technology Program

Mar 2023

Publications

Wang, R., Ghosh, S., Cox, D., Antognini, D., Oliva, A., Feris, R. and Karlinsky, L., 2024. Trans-LoRA: Towards Data-Free Transferable Parameter Efficient Finetuning. arXiv preprint arXiv:2405.17258.

D'Souza, N., Dey, N., Jain, L., **Wang, R.**, Akakin, H., Li, Q., Li, W., Carlson, C., Golland, P. and Syeda-Mahmood, T., 2023, October. Feature Selection for Malapposition Detection in Intravascular Ultrasound-A Comparative Study. In Applications of Medical Artificial Intelligence: Second International Workshop, AMAI 2023, Held in Conjunction with MICCAI 2023, Vancouver, BC, Canada, October 8, 2023, Proceedings (Vol. 14313, p. 165). Springer Nature.

Chen, C., **Wang, R.**, Bajaj, C. and Öktem, O., 2022. An efficient algorithm to compute the X-ray transform. International Journal of Computer Mathematics, 99(7), pp.1325-1343.

Wang, R., 2019, October. Incorporating Frame Image and Frame Sequence into Ensemble Learning Networks to Improve the Accuracy of Physical Bullying-Detecting Model. In IOP Conference Series: Materials Science and Engineering (Vol. 612, No. 5, p. 052047). IOP Publishing.

Wang, R., 2021, March. Comparing Grover's Quantum Search Algorithm with Classical Algorithm on Solving Satisfiability Problem. In 2021 IEEE Integrated STEM Education Conference (ISEC) (pp. 204-204). IEEE.