

# Rui-Xi (Ray) Wang

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## RESEARCH INTERESTS

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AI for Science, AI for Health

## EDUCATION

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**Massachusetts Institute of Technology**, Cambridge, MA  
Bachelor of Science in Computer Science & Engineering and Mathematics (Double Major) 09/2022 — 05/2025  
Cumulative GPA: 5.0/5.0

**National Taiwan University**, Taipei, Taiwan  
Bachelor of Engineering in Electrical Engineering (Transferred) 09/2021 — 06/2022  
Cumulative GPA: 4.06/4.3

## RESEARCH EXPERIENCE

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**MAGICS Lab, Northwestern University** Evanston, IL (remote in Taipei, Taiwan)  
*Advisor: Prof. Han Liu, Prof. Shao-Hua Sun* 09/2025 — Present

- Developing foundational models for single cell gene expression data to predict perturbation effects

**Connor Coley's Lab, MIT** Cambridge, MA (remote in Taipei, Taiwan since 09/2025)  
*Advisor: Prof. Connor Coley* 05/2024 — Present

- Developing GNN and Transformer-based mass spectrum prediction model with Retrieval Augmented Generation (RAG) and graph matching algorithm

**Camera Culture Group, MIT Media Lab** Cambridge, MA  
*Advisor: Prof. Ramesh Raskar* 11/2024 — 06/2025

- Developing Decentralized AI systems for healthcare with methylation data

**Learning Matter Lab, MIT** Cambridge, MA  
*Advisor: Prof. Rafael Gómez-Bombarelli* 01/2023 — 05/2024

- Organizing and benchmarking the performance of various models on NIR and UV-VIS spectral datasets

## PUBLICATIONS

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(\* denotes Equal Contribution)

### Conference Papers

- Wang, R.\*; **Wang, R.-X.\***; Manjrekar, M.; Coley, C. Neural Graph Matching Improves Retrieval Augmented Generation in Molecular Machine Learning. In International Conference on Machine Learning, **ICML 2025**
- Greenman, K. P.; **Wang, R.-X.**; Joung, J. F.; Han, M.; Green, W. H.; Park, S.; Gomez-Bombarelli, R. Toward Accurate Prediction of Near-Infrared Absorption: Physics-Based Calculations, Machine Learning, and the Crucial Role of Data. In **2025 AIChE Annual Meeting**

### Journal Papers

- **Wang, R.-X.** *p*-adic alternated Julia sets, submitted to **p-Adic Numbers, Ultrametric Analysis and Applications** (under review)

## AWARDS

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**Gold Medal** Osaka, Japan (remote)  
International Chemistry Olympiad 08/2021

**Fu Bell Scholarship (awarded to top freshman student)** Taipei, Taiwan  
National Taiwan University 09/2021

## TEACHING EXPERIENCE

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**MIT EECS** Cambridge, MA  
*Lab Assistant* 02/2024 — 05/2024

- Served as an undergraduate Lab Assistant for Introduction to C and Assembly (6.190)

## WORK EXPERIENCE

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**Microsoft***Software Engineering Intern*

Redmond, WA

06/2025 — 08/2025

- Worked with the Azure AI Platform Agent Team on developing the memory tool

**Delta Biosciences***Research Intern*

Vilnius, Lithuania

06/2023 — 08/2023

- Worked on DNA-encoded library analysis and molecular property prediction

## 1 OTHER EXPERIENCE

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**Ministry of the Interior***Substitute Service*

Taipei, Taiwan

10/2025 — 02/2026

- Serving in the Taipei City Office as an alternative to mandatory military service due to family circumstances

## SKILLS

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- **Programming Languages:** Python, C#, C++, C, Go, SQL, RISC-V
- **Libraries:** Numpy, Pandas, Matplotlib, PyTorch, Tensorflow, scikit-learn
- **Tools:** Linux, Git