

Rui-Xi (Ray) Wang

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RESEARCH INTERESTS

AI for Science, AI for Health

EDUCATION

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

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

RESEARCH EXPERIENCE

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

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

- Developed GNN and Transformer-based mass spectrum prediction model with Retrieval Augmented Generation (RAG) and graph matching algorithm
- Developed DETR-style graphormer based mass spectrum prediction model

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

(* denotes Equal Contribution)

Conference Papers

- Ali ElSheikh*, **Rui-Xi Wang***, Weimin Wu*, Yibo Wen, Payam Dibaeinia, Jennifer Yuntong Zhang, Jerry Yao-Chieh Hu, Mei Knudson, Sudarshan Babu, Shao-Hua Sun, Aly A. Khan, Han Liu. Cell-JEPA: Latent Representation Learning for Single-Cell Transcriptomics. Submitted to **ICML 2026** (under review)
- Runzhong Wang*, **Rui-Xi Wang***, Mrunali Manjrekar, Connor W. Coley. Neural Graph Matching Improves Retrieval Augmented Generation in Molecular Machine Learning. In International Conference on Machine Learning, **ICML 2025**
- Kevin P Greenman, **Rui-Xi Wang**, Joonyoung F Joung, Minhi Han, William Green, Sungnam Park, Rafael Gomez-Bombarelli. 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

- **Rui-Xi Wang**. p -adic alternated Julia sets, submitted to **p-Adic Numbers, Ultrametric Analysis and Applications** (under review, preprint available on arxiv)

AWARDS

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

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

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

OTHER EXPERIENCE

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

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