

Rice (Xilin) Wang

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Education

Northeastern University

Ph.D. in Computer Science

Advisor: Byron C. Wallace

Sept 2025 – Present

Boston, MA

Brown University

Sc.B. in Applied Mathematics–Computer Science, GPA 4.0/4.0, magna cum laude

Honors thesis: *Unveiling Biomedical Question Answering Pathways in Large Language Models: An Interpretability Study with Circuit Discovery*. Advisor: Ritambhara Singh

Sept 2021 – May 2025

Providence, RI

Publications & Preprints

- [1] **Xilin Wang**, David Bau, Byron C. Wallace. *How to train your model organism*. arXiv:2610.10203, 2026. [arXiv]
- [2] **Xilin Wang**. *Unveiling Biomedical Question Answering Pathways in Large Language Models: An Interpretability Study with Circuit Discovery*. Honors thesis, Department of Computer Science, Brown University, 2025. [PDF]
- [3] **Xilin Wang**. *Comprehensive Surveys on Validating Wearable ECG Devices and Related FDA's SaMD Regulating Development*. International Journal of Law, Ethics, and Technology, 2021(1):94–113, 2021. [Link]

Research Experience

ICD code embeddings for outcome prediction

Student Researcher, Brown University

Nov 2024 – Present

Providence, RI

- Built transformer-based models over sets of ICD-10-CM codes from HCUP inpatient data to predict readmission and mortality, compared against established comorbidity indices
- Proposed using large language models to embed ICD codes

Clinical text embeddings for cost-effective medical knowledge retrieval

Student Researcher, University of California, San Francisco

June 2024 – Jan 2025

San Francisco, CA

- Instruction-tuned Llama 3 family models on discharge summaries to predict clinically meaningful variables such as sepsis
- Studied the effects of prompt design and hyperparameters; extracted and evaluated clinical note embeddings with downstream classifiers

Mobility Analysis for Pandemic Prevention Strategies (MAPPS)

Student Researcher, Brown University

Dec 2022 – Dec 2023

Providence, RI

- Built a prototype for contact identification from spatio-temporal data and explored agent-based transmission models in NetLogo; reviewed agent-based and physical models of pathogen dispersal

Selected Course Projects

Visualizing and interpreting deep learning for CRISPR/Cas9 on-target prediction

CSCI 2952G: Deep Learning in Genomics, Brown University

Fall 2023

Analyzed interpretable sgRNA features used by deep learning models of three different architectures with feature importance maps, saliency maps, and SHAP.

Diffusion models for skin lesion segmentation

CSCI 1430: Computer Vision, Brown University

Spring 2024

Combined a diffusion probabilistic model with a UNet encoder–decoder on the ISIC 2016 skin lesion dataset.

Teaching

Undergraduate Teaching Assistant, Brown University

- CSCI 1470: Deep Learning | Department of Computer Science Spring 2024
- APMA 1655: Honors Statistical Inference | Department of Applied Mathematics Spring 2023

Awards

Undergraduate Teaching and Research Award (UTRA), Brown University Summer 2024 – Spring 2025

Skills

Programming: Python, Java, C, SQL, R, MATLAB, $\text{\LaTeX}$

ML frameworks: PyTorch, TensorFlow

Languages: English, Mandarin Chinese (bilingual), Japanese (intermediate)