

Jason Liu

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EDUCATION

Rutgers University, New Brunswick, NJ September 2023 – Present
Bachelor of Science, Computer Science and Mathematics GPA: 3.964
Coursework:

- CS: Data Structures, Design and Analysis of Algorithms, Complexity Theory
- Math: Discrete Structures, Mathematical Analysis, Linear Algebra, Theory of Probability, Theory of Statistics

EXPERIENCE

Research Assistant June 2022 – Present
Xing Lab of Genomics, Rutgers University New Brunswick, NJ

- Develop novel genome analysis pipelines
- Visualize and summarize results through writing and presentation
- Develop and maintain lab websites ([Xing Lab](#) and [TIC Genetics Study](#))

Aresty Research Assistant September 2024 – April 2025
Automated Reasoning Group, Rutgers University New Brunswick, NJ

- Reinforcement-learning approach to automated theorem proving
- Implement and train machine learning models using `pytorch`
- Presented work at undergraduate conference

Grader (Math 291) September 2024 - December 2024
Department of Mathematics, Rutgers University New Brunswick, NJ

Tutor August 2023 - July 2024
PALS Learning Center Piscataway, NJ

- Tutor students from ages 8-17
- Teach in groups of 4-5, provide one-on-one tutoring
- Subjects: Algebra 1 & 2, Geometry, Precalculus, SAT Math & English

PUBLICATIONS

1. [Liu, J.](#), [Mao, W.](#), [Zhu, H.](#) (2025 April) LLM World Models for Efficient Exploration in Automated Theorem Proving. 21st Aresty Undergraduate Research Symposium, Piscataway, NJ [Conference]
2. [Zeng, W.](#), [Xu, J.](#), [Liu, J.](#), [Marin, D.](#), [Treff, N.](#), [Xing, J.](#) (2024 October) Identification and prioritization of candidate genes associated with aneuploidy using PGT-A data. MABC 2024, Philadelphia, PA [Conference]
3. [Liu, J.](#), [Xu, M.](#), [Xing, J.](#) (2024 October) Systematic assessment of active module identification algorithms. MABC 2024, Philadelphia, PA [Conference]
4. [Biswas, L.](#), [Tyc, K.](#), [Aboelenain, M.](#), [Sun, S.](#), [Dundović, I.](#), [Vukušić, K.](#), [Liu, J.](#), [Guo, V.](#), [Xu, M.](#), [Scott, R.](#), [Tao, X.](#), [Tolić, I.](#), [Xing, J.](#), [Schindler, K.](#) (2024 July) Maternal genetic variants in kinesin motor domains prematurely increase egg aneuploidy, *Proceedings of the National Academy of Sciences*. [[Journal](#)] [[Featured in Rutgers Today](#)]
5. [Liu, J.](#), [Xu, M.](#), [Schindler, K.](#), [Xing, J.](#) (2023 October) Using PAPER to identify active modules in an aneuploidy dataset. MABC 2023, Philadelphia, PA. [Conference]
6. [Liu, J.](#), [Sun, S.](#), [Xing, J.](#) (2022 October) Predicting embryonic aneuploidy rate and identifying candidate genes in IVF patients using synonymous variants. MABC 2022, Philadelphia, PA. [Conference]

TALKS

Conformal mappings and the Riemann mapping theorem. *Directed Reading Program*, Department of Mathematics, Rutgers University (May 2025).

Extracting biological insights from gene networks. *Joint epigenetics group meeting*, Department of Genetics, Rutgers University (April 2025).

Systematic assessment of active module identification algorithms. *Research in Progress Seminar*, Department of Genetics, Rutgers University (January 2025).

The Weierstrass factorization theorem. *Directed Reading Program*, Department of Mathematics, Rutgers University (December 2024).

Predicting embryonic aneuploidy rate and identifying candidate genes in IVF patients using synonymous variants. *Lightning Talk*, MABC 2022 (October 2022).

AWARDS

The Paul Robeson Centennial Scholar Award

Rutgers University - School of Arts & Sciences (2025).

The Rutgers College Scholarship

Rutgers University - School of Arts & Sciences (2025).

The David and Dorothy Bernstein Scholarship for Summer Research

Rutgers University - School of Arts & Sciences (2024).

Trainee Award

MidAtlantic Bioinformatics Conference (2022).

SKILLS

Programming languages: Python, UNIX Shell, R, Java, C++

Presentation and written communication

Project design and management

Human languages: Mandarin (fluent).

INTERESTS

Musical instruments: Melodica, Piano