Gloria Ma

gloriama@mit.edu | +1 (408) 457-6166 | Cambridge, MA

EDUCATION

Massachusetts Institute of Technology (MIT) Expected May 2028

Bachelor of Science, Double Major in Mathematics and Computer Science GPA: 5.0/5.0

Relevant Coursework: Deep Learning (Grad), Machine Learning for Computational Biology (Grad), Statistical Mechanics, Algorithms, Abstract Algebra, Real Analysis

PUBLICATIONS

1. Choi, M.*, Chen, D.*, **Ma, G.***, Jaakkola, T., & Barzilay, R. (2026). Generative modeling of solvated biomolecules. *ICML 2026 Workshop on Generative and Agentic AI for Biology* (GenBio 2026), spotlight paper. https://openreview.net/forum?id=kIe6nCvXzA. **Equal first-author contribution.*

EXPERIENCE

Arc Institute Jun. 2026 - Present

Undergraduate Research Fellow *Palo Alto, CA*

- Developing Evo3, a DNA foundation language model.

Regina Barzilay Group @ MIT CSAIL Jan. 2026 - Present

Undergraduate Researcher *Cambridge, MA*

- Developing BoltzGen, an all-atom diffusion model for protein/biomolecule generation. Adding hydration awareness via joint co-generation of biomolecule structure and solvent, to better capture solvent interactions compared to post-hoc imputation baselines.

Hudson River Trading Jan. 2026 - Feb. 2026

Software Engineer / Algo Developer Winter Intern *New York, NY*

- Developed a multi-signal linear model on order-book and trade-flow features to predict short-horizon returns; built C++ execution infrastructure for algorithmic trading; deployed live on Brazilian equities.

MIT Koch Institute for Integrative Cancer Research Aug. 2025 – Jan. 2026

Undergraduate Researcher *Cambridge, MA*

- Conducted simulations of base- and prime-editor systems (Cas12a-ABE BASELINE vs DNA Typewriter), evaluating reconstruction accuracy of novel lineage tracing technologies. Built a phylogenetics pipeline (Cassiopeia) for single-cell lineage tracing analysis, implementing evaluation metrics and tooling for tree parsimony and parameter estimation.

HONORS

- Mathematical Olympiad Program (MOP) Participant *(USA IMO team training camp)* 2024
- USA Biology Olympiad (USABO) Training Camp Invitee *(top 20 in the US)* 2024
- USA Physics Olympiad (USAPhO) Silver Medalist *(top 100 in the US);* Citadel and Citadel Securities USAPhO Certificate of Excellence 2025
- AMC 10B Perfect Score (150/150); Jane Street AMC12 Young Women in Mathematics Certificate Award 2025
- **Selected Programs:** SPARC (Applied Rationality & Cognition, 2025, 2026); Optiver FutureFocus (Trading & Research, 2026); MOP (2024); Canada/USA Mathcamp (2024); G2 Math Program (2023)

PROJECTS

ATOMICA-DiffSBDD

- Conditioned DiffSBDD, an SE(3)-equivariant 3D diffusion model, on ATOMICA protein-ligand embeddings through a cross-attention module to build a chemistry-aware model for de novo antibiotic design.
- Evaluation pipeline incorporates Boltz-2, AutoDock Vina, and ADMET-AI scoring, generating chemically valid, drug-like ligands with improved predicted binding to *A. baumanni* PBP3 over random and decoy baselines.