

# RYAN LIN

he/him · rylin@caltech.edu · <https://rlin232.github.io> · SF Bay Area

## EDUCATION

### California Institute of Technology (Caltech)

B.S. Computer Science, Minor in Information and Data Sciences *GPA: 4.1/4.0*

Pasadena, CA

Graduation Date: 06/26

Relevant Coursework: Large Language Models for Reasoning, Machine Learning & Data Mining, Data Structures & Algorithms, Discrete Mathematics, Differential Equations, Probability & Statistics, Probability Models

## EXPERIENCE

### Apple Inc.

AI / ML Intern

Sunnyvale, CA

Jun 2025 – Sep 2025

- Designed, implemented, and deployed a production-grade LLM inference server from scratch for the Foundation Model Compute (Infra) team, enabling elastic autoscaling on accelerators, improving resource efficiency by 8x on real use-cases across cross-functional teams.
- Contributed to axlearn, Apple's largest open-source deep learning library.
- One of two intern projects from the org selected to present to Apple AI/ML leadership.

### Caltech - Anima AI + Science Lab

Researcher - advised by Dr. Julius Berner, Prof. Animashree (Anima) Anandkumar

Pasadena, CA

Oct 2023 – Present

- Developing new machine learning architectures capable of zero-shot super-resolution for solving families of Partial Differential Equations (PDEs) with arbitrary geometries.
- Incorporating new loss functions to neural operators (ex. physics losses) to improve training speed and data usage.
- Contributed to neuraloperator, an open-source PyTorch-based repository for deep learning on PDEs.

### The MITRE Corporation

Software Engineering & Machine Learning Intern

San Diego, CA

Jun – Sep (2021 – 2024)

- One of  $\approx$  five high school students of the 500+ interns selected for the MITRE Internship Program each summer.
- Designed and deployed pipelines leveraging Retrieval-Augmented Generation (RAG), LLMs (OpenAI API + LangChain), and custom embeddings to automate cybersecurity test generation and accelerate delivery of secure system profiles by 500%.
- Developed Heimdall's modern security results viewer (PostgreSQL, TypeScript, Vue) to improve usability of a flagship MITRE product.
- Primary author of the open-source SAF CLI, now with 500,000+ downloads, streamlining security automation for government and industry.
- Authored normalization libraries adopted by federal sponsors and commercial partners, accelerating accreditation processes by 1000%.

## PUBLICATIONS

### CAT: Curvature-Adaptive Transformers for Geometry-Aware Learning

[Ryan Y. Lin](#), Siddhartha Ojha, Nicholas Bai. *Non-Euclidean Foundation Models Workshop at NeurIPS 2025*

### Coarse-to-Fine 3D MRI Reconstruction via 3D Neural Operators

Armeet Singh Jatyani, Jiayun Wang, [Ryan Y. Lin](#), Valentin Duruisseaux, Anima Anandkumar. *Imageomics Workshop at NeurIPS 2025*

### Diffusion-Generated Social Graphs Enhance Bot Detection

Alec Laprevotte, [Ryan Y. Lin](#), Siddhartha Ojha. *New Perspectives in Graph Machine Learning Workshop at NeurIPS 2025*

### Enabling Automatic Differentiation with Mollified Graph Neural Operators

[Ryan Y. Lin](#), Julius Berner, Valentin Duruisseaux, David Pitt, Daniel Leibovici, Jean Kossaifi, Kamyar Azizzadenesheli, Anima Anandkumar. *Transactions on Machine Learning Research (TMLR)*, 2025.

### Strategic Collusion of LLM Agents: Market Division in Multi-Commodity Competitions

[Ryan Y. Lin](#), Siddhartha Ojha, Kevin Cai, and Maxwell F. Chen.

*Towards Safe & Trustworthy Agents Workshop at NeurIPS 2024. Language Gamification Workshop at NeurIPS 2024*

## LEADERSHIP & EXTRACURRICULAR ACTIVITIES

### Director of Hacktech (Caltech's Annual Hackathon)

Nov 2023 - Present

- Managed a team of 10+ students to organize and execute a 36-hour hackathon with 500+ participants.
- Coordinated with sponsors, judges, and mentors to ensure a successful event.

### Y Combinator (YC) AI Startup School

Jun 2025

- Selected as one of 2,500 CS students globally to attend the very first AI Startup School.

### NCAA DIII Varsity Swimmer - Caltech Swim & Dive

Sep 2023 - Present

## SKILLS

Python, Java, Typescript, JavaScript, R, Ruby, C, C++, Shell Script, PyTorch, Jupyter, Weights & Biases, SLURM, CUDA, Linux, NLP, LangChain, OpenAI API, Huggingface, Agile Development, Kubernetes, CI / CD