

# Rohun Agrawal

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EDUCATION                    **California Institute of Technology**                    2021 – 2025  
B.S. Applied and Computational Mathematics  
Minor: Computer Science  
GPA: 4.1/4.3

RESEARCH                    **Caltech, Georgia Gkioxari Lab**                    January 2024 – Present  
EXPERIENCE                    Advised by Prof. Georgia Gkioxari

- Formulated and implemented an agentic workflow that produces a dynamic domain-specific language for visual program synthesis, improving 3D spatial reasoning, and outperforming large vision-language models.
- The project won Meta’s LLM Evaluation Research Grant for ongoing work, and is in submission at CVPR 2025.

**NASA Jet Propulsion Lab, ML Group**                    June 2023 – September 2023  
Machine Learning Research Intern

- Researched calibration of a Gaussian Process Regression model for Martian frost likelihood.
- Reduced calibration error by over 6x for more reliable uncertainty estimates, improving confidence in 63% of scientific regions of interest.

**MIT, William Freeman Lab**                    January 2023 – June 2023  
Advised by Mark Hamilton

- Developed and evaluated a novel feature distillation algorithm for features from Meta’s DINO model aimed at improving unsupervised semantic image segmentation.

**Caltech, Katie Bouman Lab**                    January 2022 – June 2023  
Advised by Prof. Oscar Leong

- Developed an alternating minimization algorithm that samples from a denoiser via Langevin Dynamics to solve imaging phase retrieval problems.
- First-author publication in ICASSP 2023.

WORK                    **Apple, Media Analysis Team**                    June 2024 – September 2024  
EXPERIENCE                    Machine Learning Intern

- Implemented and trained deep models from scratch for a video-related task with a focus on improving inference speed for similar output quality.
- Selected as 1 out of 10 interns to present to Craig Federighi, Senior VP and head of the Software Engineering Org.

PUBLICATIONS                    **Visual Agentic AI for Spatial Reasoning with a Dynamic API**  
D. Marsilli, R. Agrawal, Y. Yue, G. Gkioxari.  
*Submitted to Conference on Computer Vision and Pattern Recognition (CVPR) 2025.*

**Holistic Mapping of the Present-day Martian Seasonal CO2 Frost: Part 1**  
S. Diniega, G. Doran, S. Lu, M. Wronkiewicz, J. Widmer, R. Agrawal, U. Rebbapragada.  
*Submitted to Planetary Science Journal.*

**Alternating Phase Langevin Sampling with Implicit Denoiser Priors for Phase Retrieval**  
R. Agrawal, O. Leong.  
*International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2023.*

HONORS AND AWARDS	<b>Meta LLM Evaluation Research Grant</b> (for project with Prof. Gkioxari)	2024
	<b>Apple Intern Presentation Finalist</b>	2024
	<b>Caltech Athlete of the Year</b>	2024
	<b>NCAA All-Academic Honors - Track &amp; Field</b>	2024
	<b>Housner Student Discovery Fund Recipient</b>	2023
	<b>Skjellum Research Fellowship</b>	2022
TEACHING	CS 150: Introduction to Deep Learning (TA)	Winter 2025
	ACM 116: Introduction to Probability Models (TA)	Fall 2024
	CS 12: Machine Learning in Tensorflow (Instructor)	Spring 2024
	ACM 104: Applied Linear Algebra (TA)	Fall 2023
	CS 12: Machine Learning in Tensorflow (TA)	Spring 2023
ACTIVITIES	Caltech Data Science Organization, President	2021 - Present
	NCAA Cross Country and Track, Captain	2021 - Present