

Rohan Gupta

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EDUCATION

University of Michigan <i>PhD, Astronomy</i>	Currently Enrolled
University of Chicago <i>Masters Program in Computer Science</i>	Graduated Jun 2025
University of Chicago <i>Bachelor of Science in Astrophysics (Honors), Bachelor of Science in Computer Science (with specialization in Human Computer Interaction), Bachelor of Arts in Physics</i>	Graduated Jun 2024

SKILLS






























Programming Languages: C/C++, Python, Julia
Tools: Git/GitHub, Linux, Slurm, D3.js

RESEARCH EXPERIENCE AND LAB EXPERIENCE

Prof. John Monnier <i>PhD Student at UMich</i> <ul style="list-style-type: none"> Working on applying generative priors to image reconstruction in optical interferometry to reveal time-variable substructures in protoplanetary disks. Testing various models such as normalizing flows and latent diffusion methods, and benchmarking against current image reconstruction methods such as CLEAN and MiRA. 	Aug 2025 – Present
Prof. Jacob Bean <i>Research Assistant at UChicago</i> Instrumentation Lead: Andreas Seifahrt <ul style="list-style-type: none"> Worked on integrating a laser frequency comb into the calibration scheme of MAROON-X, an extreme precision radial velocity spectrograph at the Gemini-North telescope. This work culminated in a thesis titled “Wavelength Calibration of the Extreme Precision Radial Velocity Spectrograph MAROON-X using a Laser Frequency Comb and a Fabry-Perot etalon” and a poster presentation at the 245th AAS in 2025. 	May 2023 – Jul 2025
Prof. Doyal “Al” Harper <i>Research Assistant at UChicago</i> Lab Manager: Marc Berthoud <ul style="list-style-type: none"> Built control software (C#, Python) and mechanical adapters to integrate a new filter wheel, guider, and adaptive optics unit at Stone Edge Observatory. Conducted on-sky tests and released the full control suite and documentation for external observatories. 	Apr 2023 – Jul 2025

MISSION DEVELOPMENT & GRANT EXPERIENCE

UChicago Space Program <i>Advisor, Head of Funding & Outreach, Engineer</i> <ul style="list-style-type: none"> Founding member of UChicago’s cubesat program. Shaped early mission design, team structure, and ground-station designs for the PULSE-A optical communications cubesat. Authored successful grant proposals leading to \$70,000+ in direct funding. Co-authored NASA CSLI proposal that awarded the team a launch opportunity. Co-author on a finalist proposal submitted to NSF for \$1M grant to support follow up mission to attempt quantum key distribution from a cubesat (PULSE-Q). Work contributed to two conference papers. 	2020 – 2025
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Four sub-Earth planets orbiting Barnard's Star from MAROON-X and ESPRESSO*The Astrophysical Journal Letters* (10.3847/2041-8213/adb8d5)Ritvik Basant , Rafael Luque , Jacob L. Bean , Andreas Seifahrt , Madison Brady , Lily L. Zhao , Nina Brown , Tanya Das , Julian Stürmer , David Kasper , **Rohan Gupta** , Gumundur Stefánsson **PULSE-A Mission Overview: Optical Communications for Undergraduate Students***2025 SmallSat Conference* (10.48550/arXiv.2507.05684)Logan Hanssler , Seth Knights , Graydon Schulze-Kalt , Juan Ignacio Prieto Asbun , Robert Pitu , Lauren Ayala , **Rohan Gupta** , Vincent Redwine , Spencer Shelton , Catherine Todd , Maya McDaniel , Sofia Mansilla , John Baird , Mason McCormack , Leah Vashevko , Tian Zhong , Michael Lembeck **PULSE-A: Polarization-Modulated Optical Communications at the CubeSat Form Factor***Accepted at IEEE AeroConf 2026*Logan Hanssler , Juan Ignacio Prieto Asbun , Seth Knights , Sofia Mansilla , Everette Spencer Shelton , Catherine Todd , Elizabeth Rosario, Graydon Schulze-Kalt , Leah Vashevko , Daniel Lee, Robert Pitu , Rodrigo Spinola e Castro, Aidan Etterer, Akash Piya, Brian Yu, Vidya Suri, Lauren Ayala , **Rohan Gupta** , Mason McCormack, Vincent Redwine , Danielle Zumi Riekse, Tian Zhong , Michael Lembeck 

CONFERENCES AND PRESENTATIONS

Wavelength Calibration of the Extreme Precision Radial Velocity Spectrograph MAROON-X using a Laser Frequency Comb and a Fabry-Perot etalon*245th Annual Meeting of the American Astronomical Society | Poster Presentation*

January 2025

TEACHING EXPERIENCE

Graduate Student Instructor | *University of Michigan*

Fall 2025

- ASTRO 361 - Astronomical Techniques (Fall 2025)

Lecturer | *University of Chicago*

Summer 2025

- ASTR 20500 - Introduction to Python for Astrophysics (3 week intensive summer course, Summer 2025)

Teaching Assistant | *University of Chicago*

2023 – 2025

- ASTR 20500 - Introduction to Python for Astrophysics (Fall 2023, Fall 2024)
- ASTR 21100 - Computational Techniques in Astrophysics (Winter 2024, Winter 2025)
- ASTR 21200 - Observational Techniques in Astrophysics (Spring 2024)
- CMSC 23900 - Data Visualization (Spring 2025)

LEADERSHIP ACTIVITIES

SEDS-USA | *Treasurer & Board Member*

2022 – 2024

- Managed the finances and operations of a 10,000 member non-profit. Oversaw a \$ 150,000 annual budget and made strategic decisions as part of an 8 member national board.