Ronit Kapur

+1 (571)-699-6433 | ronit.kapur@duke.edu | github.com/rkloco

Education

Duke University — Durham, NC
B.S. Computer Science & Physics (Concentrations: AI/ML, Astrophysics), Minor in Mathematics — *Expected May 2028 (GPA: 3.91/4.00)*

Thomas Jefferson High School for Science and Technology — Alexandria, VA
Advanced High School Diploma — *August 2020 – June 2024 (GPA: 4.58/4.00)*

Selected Coursework: Probability Theory, Linear Algebra, Multivariable Calculus, Algorithms, Computer Systems, Artificial Intelligence, Applied ML, Computer Vision, Research Statistics, High-Dimensional Data Analysis, Electrodynamics, Modern Physics, Thermal Physics
Technologies: Python, Java, C/C++, Fortran, MATLAB, JavaScript, Git, Arduino, Linux, LaTeX
Skills: Computational Physics, Machine Learning, Data Science, Word, Excel, Analytical Writing
Awards: 8VC x Meta x Duke Hackathon 1st Place, ISEF Finalist, SciOly Astronomy 1st Place Nationwide, AIME Qualification, Nat'l Merit Schlr
Interests: Astrophysics, Financial Markets & Derivatives, Cybersecurity, Quantum Computing, Reinforcement Learning

Experience

SpaceX — May 2026 – Present
GNC Engineering Intern — *Hawthorne, CA*

- GNC Engineering Intern for SpaceX's Starshield program, which leverages SpaceX's Starlink technology and launch capability to support national security efforts. Developing highly reliable and performant GNC algorithms, simulations, tools, services, and dashboards.

Duke University Mathematics Department — August 2025 – May 2026
Help Room Teaching Assistant — *Durham, NC*

- Help Room TA. Fall 2025: Math 218D (Matrices and Vectors), Duke's linear algebra course designed for engineers. Spring 2026: Math 230 (Probability). Engaged with students on a weekly basis to assist with course content, homework, and logistical questions.

Liberata — June 2025 – Present
Backend Engineer — *Durham, NC*

- Creating an open-source publishing platform complete with incentive structures for peer review and replication. Building OAuth integrations; constructing Supabase infrastructure; computing renewed metrics of scholarly excellence; handling file processing.

GWU Space Policy Institute — June 2025 – July 2025
Policy Research Intern — *Washington, D.C.*

- Crafted a technical report providing guided insights for the upcoming decades of space governance grounded upon real-world precedent in Svalbard and Tangier. Networked at the 2025 International Space Development Conference to supplement research. Worked directly alongside university faculty and learned from students at the International Space University in France.

Turbo AI — February 2025 – May 2025
Data Engineer — *Durham, NC*

- Helped scale edtech AI startup from 1.5M to 3M users and over $3M in Annual Recurring Revenue. Gleaned insights from complex user data by integrating PostHog with existing Next.js/Supabase codebase, developing event-based metrics, and designing visualizations to track, analyze, and predict user behavior. Amended product pricing and UI according to projections of retention and churn.

U.S. Naval Research Laboratory — June 2022 – August 2023
Research Intern — *Washington, D.C.*

- Modeled Faraday Rotation (FR) near the Sun to infer properties of its magnetic field. Analyzed large-scale ephemeris data from the Parker Solar Probe with Python visualization tools to discover optimal FR observation times for a successful Very Large Array proposal.

University of Maryland, College Park — March 2022 – April 2024
Student Researcher — *College Park, MD*

- Independent research project under astrophysicist Tad Komacek in collaboration with NASA. Incorporated stellar gravity darkening in Navier-Stokes-based general circulation algorithms of fluid dynamics, developing the most sophisticated atmospheric model of exoplanets to date of research completion. Ran months-long numerical simulations on UMD's Zaratan supercomputing cluster. Presented at the 2023 International Science and Engineering Fair in Dallas, TX.

Volunteering & Advocacy

The SPRING Group — Fellow

- Co-authored 20-page paper on youth recommendations for generative AI governance as part of the first high school student-led policy think tank. Accepted as material for the United Nations High-Level Advisory Body on Artificial Intelligence.

TJ AI Symposium — Organizing Committee Member; Moderator

- Led six-month effort to organize first high school-led AI symposium on governance and ethics in Spring 2024. Moderated hour-long panel of six experts on AI in public education to an audience of over 250 students, teachers, and members of the Fairfax County school board.

Space Summit DC — Founder

- Founded local space conference for high school students in Fall 2023, hosted at UMD College Park. Gathered ~100 registrants from over 20 DC-area public high schools – including Title I schools – after contacting over 200 local teachers. Brought together six guest speakers spanning industry, academia, and local nonprofits.