Ananya Rajagopalan

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Education

University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA — 2024 - Present
Ph.D. in Genomics and Computational Biology (Biomedical Informatics Track) — GPA: 4.0/4.0
Certificate in Graduate Training in Medical Sciences (GTMS)

Co-advised by Dr. Shefali Setia-Verma and Dr. Joseph D. Romano. My research focuses on developing and applying machine learning methods with biomedical data to women's health conditions.

Yale College, New Haven, CT — 2020 - 2024
B.S. in Computer Science — GPA: 3.91/4.0
Statistics & Data Science Certificate, Global Health Scholar

Publications

- **Rajagopalan A**, Nguyen TA, Guare LA, Garao Rico AL, Venkatesh R, Caruth L, et al. "DRIVE-KG: Enhancing variant-phenotype association discovery in understudied complex diseases using heterogeneous knowledge graphs." Accepted for publication at *Pacific Symposium on Biocomputing (PSB),* 2026.
- Guare LA, Das J, Caruth L, **Rajagopalan A**, Akerele AT, Brumpton BM, et al. Expanding the genetic landscape of endometriosis: Integrative -omics analyses uncover key pathways from a multi-ancestry study of over 900,000 women [Internet]. Obstetrics and Gynecology; 2024 [cited 2025 Sept 18]. Available from: http://medrxiv.org/lookup/doi/10.1101/2024.11.26.24316723
- Prashant S. Emani et al., Single-cell genomics and regulatory networks for 388 human brains. *Science* 384, eadi5199 (2024). DOI:10.1126/science.adi5199
- **Rajagopalan A**, Vollmer M. Rapid Detection of Heart Rate Fragmentation and Cardiac Arrhythmias: Cycle-by-Cycle rr Analysis, Supervised Machine Learning Model and Novel Insights. In: Riaño D, Wilk S, Ten Teije A, editors. Artificial Intelligence in Medicine [Internet]. Cham: Springer International Publishing; 2019 [cited 2025 Sept 18]. p. 371–5. (Lecture Notes in Computer Science; vol. 11526). Available from: http://link.springer.com/10.1007/978-3-030-21642-9_47
- Wang L, Javadekar N, **Rajagopalan A**, Rogovoy NM, Haq KT, Broberg CS, et al. Eligibility for subcutaneous implantable cardioverter-defibrillator in congenital heart disease. Heart Rhythm. 2020 May;17(5):860–9.

Teaching and Leadership

UPenn Summer Biomedical Research Academy, *Course Instructor* — July 2025
- Taught week-long sessions of introduction to computational biology to 3 groups of ~25 high school students, meeting 3 hours per day
- Co-designed powerpoint-based curriculum to supplement hands-on programming activities, providing guidance and support on both conceptual and technical / programming topics

Yale College Dean's Office, *First-Year Counselor (FroCo)* — 2023 - 2024
- Led a group of 16 first-year students throughout the school year offering guidance on personal, academic, and professional matters; ran orientation sessions and hosted weekly "duty nights" for mentorship hours
- Lived amongst first-year student dormitories to be an accessible source of support, ran orientation during initial weeks on campus and hosted 3 hours of weekly "duty nights" for drop-in mentorship hours

Yale Department of Computer Science, *Teaching Assistant* — 2021 - 2023

- Built an understanding of fundamental CS concepts by co-leading a 13-student section for 2 hrs per week on fundamental CS concepts (data structures, algorithms)
- Provided 4 hours of weekly academic assistance to 200+ students on topics including debugging, conceptual clarification, and best practices on approaching programming problems

Experience

Gerstein Lab (Yale University), *Undergraduate Research Assistant* 2021 - 2024

- Evaluated three model architectures (linear regression, random forests, neural networks) to accurately predict gene expression levels with variant and covariate data [senior thesis]
- Validated the biological significance of QTLs expressed within human brain cell types by creating Python scripts to calculate the statistical power of the overlap of QTLs with ATAC peaks

Clarion | A Life Sciences Consultancy, Boston, MA*, Summer Associate Consultant* June 2023 - August 2023

- Analyzed primary research data from 60-minute virtual interviews across the US, UK, Japan, and France to characterize physician attitudes and utilization of a drug for a Global 500 pharmaceutical company; gathered insights from physician interview notes and assembled key takeaways in the final client deck
- Developed current versus future predicted standard-of-care overviews for five rare diseases (currently, with minimally effective therapies) by extensively researching treatment flows and unmet medical needs

SALT Fund, Remote, *Venture Capital Fellow* February 2023 - May 2023

- Corresponded with 30+ Yale professors developing biotech/health-related startups to ask questions about their product and business plans, and discuss their ventures' clinical potential
- Produced a 9-page landscape analysis of the non-coding RNA space (with pertinent work of 18 companies and 15 institutions) for ongoing fund work and presented hypotheses to the biotech principal

Languages*:* Daily - *Python*; In decreasing order of familiarity - *SQL, R, C, Tensorflow*

Awards and Honors

Yale University B.S. cum laude with distinction in the major 2024

George A. Schrader, Jr., Prize 2024

- Established in honor of George A. Schrader B.D. [Bachelor of Divinity] 1942, PhD 1945, the third master of Branford College (1959-1966). Schrader was a leading authority on the German philosopher Immanuel Kant, as well as a mentor to an entire generation of American philosophers. He was known for his readiness to listen and to advise, and for never being too busy to help. The award is given to the member of the senior class who most exemplifies these values.

Yale Hackathon, Most Innovative Award, Earth Hacks Track (https://devpost.com/software/one-earth) 2020