

Ritika Rajamani

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EDUCATION

The Harker School

San Jose, CA
May 2022

- Weighted GPA: 4.35
- Relevant Coursework: Honors Physics, AP Chemistry, AP Biology, Organic Chemistry, Biotechnology

Swarthmore College

Swarthmore, PA
May 2026

- GPA: 3.91
- Relevant Coursework: Cellular and Molecular Biology, Foundations of Chemical Principles, Organic Chemistry I, Organic Chemistry II, Biological Chemistry I, Introduction to Computer Science, Introduction to Computer Systems, Data Structures and Algorithms,

EXPERIENCE

Synopsys Science & Technology Championship

Los Altos, CA

- Researched the Effect of Environmental Conditions on the Biodegradation of Polyethylene by *Galleria Mellonella* Larvae

Undergraduate Research Assistant

Swarthmore, PA
2022 - Present

Riley Lab, Swarthmore College
PI: Dr. Kathryn Riley

- **Developing lipid membrane models to elucidate silver nanoparticle toxicity mechanisms:** Silver nanoparticles (AgNPs) are widely used in commercial and medical products, yet their fate and reactivity in biological systems is poorly understood. I investigate the interaction of silver nanoparticles with membrane phospholipids, using liposomes as a model membrane system. Specifically, I construct liposomes that have similar membrane chemistry to the bacterium *Caulobacter crescentus*, which is used in the Riley Lab as an environmentally-relevant bacterial model. I correlate my findings using the model liposomes with bacterial toxicity assays to advance our understanding of the environmental fate and reactivity of AgNPs.

Undergraduate Research Assistant

Swarthmore, PA
2024 - Present

SPARK Lab, Swarthmore College
PI: Dr. Vasanta Chaganti, Dr. Arthur Berger

- **Differential Privacy in the Wild: Privatizing Queries over a Large Corpus of Real-World Network Traces:** We illustrate best practices to the networking community applying Differential Privacy to a large-scale real-world network measurements dataset from a large content distribution network. Our work aims to showcase use-cases for downstream network analysis queries, and goodness-of-fit of those queries for private data analysis. Finally, we work to present real-world attacks on our queries highlighting the robustness guarantees that differential privacy provides against most common threat cases.

NCAA Division III Track & Field Athlete

Swarthmore, PA
2022 - Present

Swarthmore College

- Competed as a varsity athlete for Swarthmore College's Women's Varsity Track & Field. Competed as a Track athlete in the Open 400m dash and Women's 4x400m relay team. Competed as a field athlete in Women's long jump. Women's Track & Field received the USTFCCCA All-Academic Team status in both 2023 and 2024.

LEADERSHIP EXPERIENCE

The Harker School

San Jose, CA

Journalism: Photo Editor

2018 - 2020

- Focused on photography as the lead photographer, trained new reporters, edited photos, managed gear, in charge of all photography, decides photos for the yearbook

Journalism: Academics Editor

2020 - 2021

- Managed Academics section, designed pages, edited pages, managed content for section

Journalism: Business Manager

2021 - 2022

- Manage finances of program, work with parents, design public display ads for seniors

InternNet

San Jose, CA

Director of Tutoring, President

May 2020 - Present

- Created InternNet, a tutoring nonprofit organization targeting low income students, managed all branches' staff, made administrative decisions, assisted in designing the website

VOLUNTEER EXPERIENCE

Nike Animal Rescue Foundation

Volunteer

2018 - present

- Helped familiarize the new rescue dogs with the environment, socializing with them and teaching the people interested in rescuing about the dogs available

Quarantutors

Tutor

April 2020 - August 2020

- Worked in student run organization Quarantutors as a tutor, tutored elementary and middle school students in spanish

AWARDS, INTERESTS, & SKILLS

Awards: Cross Country League Honorable Mention Freshman and Sophomore year, Cross Country Freshman of the Year

Interests: NCAA DIII Track and Field Athlete, Table Tennis Player, Photographer

Skills: Programming(Java, Python, C, C++), Photography, Adobe InDesign, Photoshop, Bridge, Illustrator