

## Lalith Roopesh

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ORC-ID: 0000-0002-7474-6003

7-year B.S./M.D. student looking to further passions in research and leadership in student engagement. Ample experience in interdisciplinary science & education at the university and industry level, alongside strong leadership and teamwork ability. Currently interested in networking with community leaders to form partnerships.

### RESEARCH EXPERIENCE

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**Research Assistant**, Tsai Lab (Tumor Biology at Moffitt Cancer Center), February 2023 - Present

Working on cell culture techniques to do confirmatory analysis and developed chemopreventative treatments using signaling pathways in cuSCC and MCPyV.

**Research Assistant**, Ullah Lab (Computational Biophysics at USF), March 2023 - Present

Developing a computational pathway model of the onset of neuroinflammation (and subsequent neurodegeneration) due to calcium signaling in SARS-CoV-2 infection.

**Research Organizer**, Uversky Lab & Engineering Biology Core, October 2022 - April 2023

Led USF team in modeling receptors across 76 species and molecular with standardized ligands to predict social behaviors. Single-handedly created Python and Bash scripts with detailed protocol for consistency, then collaborated with international team to write the paper.

**Presentations:** 2023 Castle Conference, 2023 USF Undergraduate Research Conference.

**Publications:** <https://doi.org/10.1101/2023.04.12.536521> (preprint)

**Research Organizer**, Engineering Biology Core, October 2022 - March 2023

Co-led USF team in computational characterization of human protein interactions with the Merkel cell polyomavirus and how it contributes to Merkel Cell Carcinoma oncogenesis. Assisted creation of a database of targets for subsequent wet laboratory analysis.

**Bioinformatics Research Internship**, Eli Lilly & Company, June 2021 - July 2021

Assembled a genome sequencing and error analysis project as part of a paid internship under a mentor. Created R and Bash scripts to handle large data remotely, and put together an internal presentation to detail results.

**Data Analysis Research Assistant**, Regenstrief Institute, June 2020 - July 2020

Analyzed factors leading to ICU admittance of Indiana COVID-19 patients using self-made remote Python scripts on a supercomputer to handle tens of thousands of Indiana network healthcare records.

**Presentations:** 2020 Indiana CTSI Project STEM Research Symposia

## LEADERSHIP & LOGISTICAL EXPERIENCE

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**Founder and President**, Bulls Science Olympiad, August 2022 - Present

Oversaw hosting a Science Olympiad tournament at USF for over 1100 middle-school and high-school students across dozens of schools. Now working closely with the State and National board to create curriculum and outreach programs.

**President**, Intl. Society for Computational Biology Student Group Southeast USA, May 2023 - Present

Working to support ISCB student groups through the southeastern US by organizing research symposiums with international attendees and creating organizations at other universities. Obtained funding, created strategic partnerships, and managed a team to advance this goal.

**Vice-President**, Engineering Biology Core, January 2023 - Present

Overseeing event planning and marketing for one of USF's largest student-run research organizations. Started initiatives such as the Journal Club, assisted obtaining funding, and hosted a large research symposia to further students' goals.

**Previous:** Planning Committee Chair (September 2022 - January 2023)

**Vice-President Internal**, USF Society of Asian Scientists & Engineers, March 2023 - Present

Directing most committees and roles via one-on-one meetings and task delegation to keep the executive board running smoothly. Established connections with other chapters and spearheaded research/science initiatives in the SASE South region.

**Peer Mentor Lead**, Judy Genshaft Honors College, November 2022 - Present

Executing IDH 2930, a required class for all freshmen in the Judy Genshaft Honors College alongside faculty. Developed curriculum and programming to ensure student success and interviewed/trained a cohort of 40 Peer Mentors to teach classes.

**Previous:** Honors Peer Mentor (June 2022 - October 2022)

***Co-founder and Financial Director***, Journal of Interdisciplinary Sciences & Technology, February 2023 - Present

Organized planning, garnering support for, and managing financials for a new undergraduate journal launched by USF students. Assisted with the recruitment of faculty editors and student papers.

***Co-founder and Treasurer***, Settle Out USF, September 2021 - January 2023

Handled funding and attendance for Settle Out USF, a club founded to help international students become accustomed to Florida. Set up a budget and interfaced with Student Government to manage all purchases and ensure successful events.

***Events Committee Member***, Honors College Student Council, September 2022 - February 2023

Planned and volunteered at events and general activities with the Judy Genshaft Honors College student council. Engaged students into professional workshops and engaging with Honors College faculty.

## **VOLUNTEERING**

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***Event Supervisor for Science Olympiad***, UC Davis, UT Austin, MIT, UC Berkeley, Stanford, UPenn, Caltech, August 2021 - Present

Writing college-level exams and supervising competition across numerous disciplines for high-profile competitions across the country. Worked with student-made Arduino builds to ensure legality and functionality at tournaments.

***Radiology Department Volunteer***, Moffitt Cancer Center, May 2022 - December 2022

Facilitated staff and technicians jobs by organizing/collecting pagers, cleaning, and directing patients to various departments. Expedited research by adding on shifts to help organize case files.

***Mayor***, Juniper Hall Council, September 2021 - May 2022

Organized and executed activities and decorations for Juniper Hall at USF. Worked closely with Resident Assistants and the Residence Life Coordinator alongside my peers to make decorations and build a welcoming experience.

## EDUCATION

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### **Carmel High School, Carmel, IN**

Commended Graduate  
Academic Honors Diploma  
GPA: 4.5 | ACT: 36  
Graduated May 2021

### **University of South Florida, Tampa, FL**

B.S. Biomedical Sciences  
Minors in Psychology and Biomedical Physics  
Judy Genshaft Honors College  
GPA: 3.98 | MCAT: 524  
Expected graduation: May 2025

## AWARDS & SOCIETIES

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**Sigma Xi (2023)** - For exemplary contribution to research at USF

**USF College of Arts & Sciences Dean's List (Fall 2021 - Spring 2023)** - Outstanding GPA

**Florida Benacquisto Scholarship Recipient (2022)** - Outstanding performance on the PSAT

## SKILLS & TRAINING

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Data analysis (Python, R) and general experience (Python, R, Java, NodeJS)

Familiar with PyMol, Autodock Vina, AlphaFold, and other protein modeling/docking software

Basic wet-lab animal and human cell culture techniques

CITI Program Training through the University of South Florida:

- Social and Behavioral Responsible Conduct of Research

- Physical Science Responsible Conduct of Research

- Biomedical Responsible Conduct of Research

CITI Program Training through Indiana University Health:

- Social/Behavioral Researchers

- Social and Behavioral Responsible Conduct of Research

- Physical Science Responsible Conduct of Research

- IUEHS Bloodborne Pathogen Training

- IUEHS Biosafety Training

- Good Laboratory Practice (GLP)

Biomedical Responsible Conduct of Research  
Biomedical Researcher

Environmental Health & Safety Training through the University of South Florida

Lab Safety  
Hazardous Waste Awareness and Handling

Lab Techniques Training through the University of South Florida:

CHM 2045L & 2046L	General Chemistry I & II Lab
CHM 2210L	Organic Chemistry I Lab
PCB 3063L	Genetics Lab
PCB 3023L	Cell Biology Lab

CITI Program Training through Regenstrief Institute

Researchers (Conflict of Interest)  
Researchers (Responsible Conduct of Research)

Microsoft Office Specialist Expert Certification (2018)

Trained and experienced financial officer with USF Student Government

Experienced in website building in HTML5, CSS, and JavaScript

Research and Statistics Fundamentals

Leadership and Teamwork