

# LALITH ROOPESH

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Passionate pre-medicine student looking to continue bioinformatic and biochemical research. Has ample experience in previous research at the university and corporate level along with being able to use the tools necessary, and has leadership and teamwork skills.

## **RESEARCH EXPERIENCE**

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

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

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

Leading project on computational pathway modeling of the onset of neuroinflammation due to calcium signaling in SARS-CoV-2 infection.

*Research Organizer - MCPyV Host Interactions, Engineering Biology Core, October 2022 - Present*

Working on computational characterization of protein interactions with the Merkel cell polyomavirus and how that leads to development of Merkel cell carcinoma.

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

Homology modeling of vasopressin, oxytocin, dopamine 1, and dopamine 2 receptors across 76 species and molecular with standardized ligands to predict social behaviors. Presented at the 2023 Castle Conference.

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

Worked on genome sequencing and error analysis as part of a paid internship through Indianapolis Project STEM. While the specific project was confidential, presented on techniques and skills learned as part of the program.

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

Analyzed factors leading to ICU admittance of Indiana COVID-19 patients using INPC data. Presented a thorough analysis of factors that may intensify COVID-19 and recommendations for further research.

## **LEADERSHIP & LOGISTICAL EXPERIENCE**

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

Oversees hosting a Science Olympiad tournament at USF for over 800 middle-school or high-school students across dozens of schools.

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

Oversees event planning and marketing for one of USF's largest student-run research organizations. Started two research projects within it, one of which is heading to publication.

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

Plans, creates curricula, trains teachers, and executes IDH 2930 Honors Foundations, a required class for all freshmen in the Judy Genshaft Honors College.

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

Handles funding and attendance for Settle Out USF, a club founded to help international students become accustomed to Florida.

*Honors Peer Mentor, Judy Genshaft Honors College, June 2022 - October 2022*

Teached a section of IDH 2930 Honors Foundations, a required class for all freshmen in the Judy Genshaft Honors College.

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

Plans and volunteers at events and general activities with the Judy Genshaft Honors College student council.

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

Writes college-level exams and supervises competition across numerous disciplines for high-profile competitions across the country.

*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.

*Captain (2020) and President (2021), Carmel HS Science Olympiad, September 2017 - May 2021*

Competed for and ran a completely student-run team through two competition seasons, winning the State Tournament for four years consecutively and raising our National placement by 15.

*Co-founder and Operations Head, Indiana HS Science Championships, May 2020 - August 2020*

Co-founded and became in charge of tournament logistics for one of the first large-scale online science competitions after COVID-19 canceled most in-person opportunities. Had over 130 competitors from schools across the Midwest.

*Instructor, Grandmaster Lee's Taekwondo, January 2018 - March 2020*

Worked as an instructor for all belt levels, gaining experience working with all ages of people.

*Instructor, First Start Computer Science Education, August 2017 - July 2019*

Wrote curricula for and taught kids ranging from K-12. Taught Python and hardware courses, specifically using the Raspberry Pi.

## **EDUCATION**

Carmel High School, Carmel, IN  
Academic Honors Diploma  
GPA: 4.5  
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  
Expected graduation: May 2025

## **SKILLS & TRAINING**

Data analysis and general experience in Python & R

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)

Experienced in website building in HTML5, CSS, and JavaScript

Research and Statistics Fundamentals

Microsoft Office Specialist Expert Certification (2018)

Leadership and Teamwork