

SJSU | UNDERGRADUATE RESEARCH OPPORTUNITY PROGRAM

SPRING 2025

Newsletter





Message from the Director

Dr. Andrew Carter

When Jahmal Williams and I came up with the idea of creating a campus-wide undergraduate research program over a series of Zoom calls in 2019, we both had a vision of the impact that such a program could provide our campus community. When the program officially launched in 2021 with 13 students and 12 faculty, our visions became clearer. However, looking back four years later as we close the book on another successful UROP campaign, I don't think either of us could have foreseen the level of interest and momentum the program has garnered across campus.

The 2024-25 academic year saw UROP grow in so many ways. This year's student cohort was the largest ever, comprising 66 students from diverse majors across campus and 35 participating faculty mentors. To meet this increasing demand, we opened a second section of both core courses (EDLD 10 & 11) and brought on an additional faculty member, Dr. Veneice Guillory-Lacy, to teach the year-long sequence of classes. Dr. Lacy's training in emancipatory education and social justice has been a great addition to UROP's curricular vision.

Paralleling these program successes, UROP is hosting its inaugural Research Showcase in the SU Ballroom on May 12th. The event will be attended by university leadership, faculty, and the friends and family of our students, who helped us celebrate our students one final time before they move on to the next stage of their SJSU careers.

As program director, I leave this year more excited and motivated than ever before to continue building the program on campus and in the community. Stay tuned for what we have next in the pipeline!

A handwritten signature in blue ink, appearing to be 'al' or 'Andrew Carter'.

Faculty Spotlight: Dr. Navrati Saxena



Dr. Navrati Saxena is an Associate Professor in the Department of Computer Science and has been a faculty member since Fall 2020. In Fall 2024, she began her involvement with UROP, guiding students through immersive research experiences in artificial intelligence (AI) and machine learning (ML).

Dr. Saxena's primary motivation for participating as a faculty mentor in UROP was to give undergraduate students an early and engaging introduction to research. She says "In classes, you study, take exams, and pass—but that's mostly

theoretical—when you apply what you've learned to solve real problems, write papers, and achieve tangible results, it allows you to stand out". One of Dr. Saxena's goal as a UROP faculty mentor is to counteract negative experiences that some students might have had with poorly taught introductory courses, which can lead them to give up on the field entirely.

Under her guidance, students undertook various projects, including predicting water quality using AI/ML models to address environmental sustainability and exploring algorithms to identify biases. These projects not only enhanced the students' technical skills but also raised their awareness of the societal implications of technology.

Recognizing the importance of collaborative learning, Dr. Saxena encourages her students to work in groups, fostering a supportive environment while they engage in research. She created a learning path that combined theory with practical AI/ML applications, using easy-to-access online resources. Moreover, to provide continuous support, Dr. Saxena holds weekly meetings to discuss research papers, coding practices, and the critical thinking skills essential for research success.

Dr. Saxena views UROP as a transformative platform that offers undergraduates early exposure to research, setting them apart academically and professionally. She says "UROP provides a big platform for these students to conduct research....and I can say for all my students [in UROP] they were dedicated to their research". She emphasizes the program's role in developing critical thinking, problem-solving skills, and preparing students for advanced studies or careers in research.

This year Dr. Saxena worked with UROP students Xiao Qi Lee, Sarah Hoang, Vinny Huynh, Aman Kaur, and Romanshu Gupta.

Student Spotlight: Mizan Rupan-Tompkins



When Mizan started at SJSU as an incoming first year computer science and linguistics major last fall, research wasn't necessarily at the top of his mind. Though he grew up building CS projects as a hobby, he hadn't thought about how they could connect to real-world research. That changed after visiting the UROP table during Weeks of Welcome last August, which sparked his interest in merging his passions. "It was a perfect match," he said, appreciating UROP's mentorship and paid, hands-on experience.

Now, working with his faculty mentor Dr. Behin Elahi, an associate professor in Industrial and Systems Engineering, Mizan is working on a project using vision large language models to enhance drone-based search and rescue. Their system equips drones with cameras and AI to analyze live video, identifying people in distress—such as those injured, near a fire, or signaling for help. Mizan explained how his initial idea for engaging in this work was born from stories he heard about pilots who had crashed and survived initially but ended up passing away because it took too long for rescue crews to locate them.

In the lab, Mizan works primarily in coding environments like Google Colab to train AI models. He values the lab's structured yet flexible environment, which encourages self-directed learning. Dr. Elahi has been instrumental in his growth, helping him understand how to conduct and communicate research effectively. Additionally, he credits presenting at the SJSU RSCA competition and UROP's oral presentation assignments as key towards boosting his public speaking and confidence.

Outside of UROP, he has participated in hackathons at SFSU, CSU Hayward, and UC Davis (which he won!), some of which he directly applied the technology he was learning in Dr. Elahi's lab. He recently secured an internship as a technical project manager at Spokeo and hopes to build a physical prototype of the drone system he has been working on. Grad school, once something he hadn't given much thought to, is now a serious option. His advice to future UROP students: "Get outside your comfort zone. There are a lot of opportunities and connections, it's really up to you to make the best out of it."

Student Accomplishments

Congratulations to our current students and program alumni for their successes over the past academic year

Current cohort

Mariam Malik

- McNair Scholar (2025-26 cohort)
- SJSU Student RSCA fellow (2025-26 cohort)
- Winner of the 2025 SJSU Student RSCA Competition
- 2nd place in 2025 CSU Student Research Competition (Health, Nutrition, and Clinical Sciences division)
- Invited presenter at Student RSCA forum during 2025 SJSU Research Week
- Presented a poster at the SJSU SPARC conference

Siddharth Singh

- Presented case study “Why Did Chiquita Stay in Colombia?” at 2025 MBAA Conference in Chicago, IL.
- Presented case study “Grifols’ Need for Mexican Donors” at the 2025 National Conference for Undergraduate Research in Pittsburgh, PA
- Published article “Grifols’ Need for Mexican Plasma Donors” in *Sage Business Cases*
- Invited presenter at Student RSCA forum during 2025 SJSU Research Week

Leena Rehman

- Winner of the 2025 SJSU Student RSCA Competition
- 2nd place in 2025 CSU Student Research Competition (Health, Nutrition, and Clinical Sciences division)
- Invited presenter at Student RSCA forum during 2025 SJSU Research Week

Mizan Rupan-Tompkins

- Winner of the 2025 SJSU Student RSCA Competition
- Finalist in 2025 CSU Student Research Competition

Xiao Qi Lee

- McNair Scholar (2025-26 cohort)
- USC Viterbi Summer Undergraduate Research Experience fellow (summer 2025 cohort)

Luisa Torres

- McNair Scholar (2025-26 cohort)
- Presented research poster at the SJSU COSS RSCA Showcase during 2025 SJSU Research Week

Erika De La Rosa

- Summer 2025 intern at Stanford Health Care (Interventional Platform Clinical Effectiveness team)
- Co-authored op-ed “A perspective on addressing health disparities through social epidemiology, including redefining race” in the research publication *Journal of Health Equity*

Student Accomplishments (con't.)

Pedro Sevilla-Ramos

- McNair Scholar (2025-26 cohort)

Devashree Agarwal

- Participated in the CSULA's Computational Molecular Science Workshop

Aliyah Manansala

- Presented research poster at the SJSU COSS RSCA Showcase during 2025 SJSU Research Week

Kalia Castro

- Co-presented her research poster "Comparing the effects of different small molecules on SIRT1 activity at the Northern California Undergraduate Research Symposium in San Jose, CA.

Hunter Nguyen

- Co-authored abstract accepted to the International Mechanical Engineering Congress & Exposition in Memphis, TN (November 16-20, 2025)

Carrie Chang

- Summer 2025 Housing Justice Intern at SV @ Home

Loghann Bellamy

- Summer 2025 Housing Justice Intern at SV @ Home

Program alumni

Arya Patel (2023-24 cohort)

- Presented case study "Should AAHOA hoteliers decide to 'go it alone'?" at the 2024 MBAA Conference.
- Presented case study "Race doesn't put the ball in the hoop" at the 2025 MBAA Conference.
- Published article "Should AAHOA hoteliers decide to 'go it alone'?" in the edited collection *Tourism: The business of hospitality and travel* (Pearson Press).

Hennessey Ortiz Marquina (2023-24 cohort)

- Presented abstract "Analyzing Use Cases of Artificial Intelligence Tools to Promote Physical Activity," at Society for Public Health Education in Long Beach, CA
- Co-authored op-ed "Balancing young age technology use while building invaluable social connection during an era of digitalization in the research publication *Journal of Health Equity*."

Student Accomplishments (con't.)

Yadanar Khin (2023-24 cohort)

- SJSU Student RSCA fellow (2025-26 cohort)
- Summer 2025 intern at International Flavors and Fragrances, Inc. (IFF)

Nourdean Shraim (2022-23 cohort)

- Winner of the 2025 SJSU Student RSCA Competition
- Honorable mention in 2025 CSU Student Research Competition

Sara Nayeem (2023-24 cohort)

- Co-authored manuscript "Enhancing nurse presence at discharge: Using Presence Circles to identify strategies and opportunities for change" (in press) in the research journal *International Journal of Nursing Studies Advances*.

Lailani Kenoly (2023-24 cohort)

- Presented poster titled "Using DESI spectra to understand ultra-diffuse galaxies in the Coma cluster" at the Rare Gems in Big Data conference, in Tucson, AZ.

Angelica Johnson (2021-22 cohort)

- Co-authored manuscript titled "Transforming the discharge conversation through support and structure: A scoping review" in the research journal *International Journal of Nursing Studies Advances*.

Luke Randhawa (2022-23 cohort)

- Acceptance into University of Michigan MS program in Aerospace Engineering, Aerodynamics and Propulsion (fall 2025)

Emily Foreman (2023-24 cohort)

- Presented poster titled "Assessing physicists influence on new nuclear weapons policy" at the American Association for the Advancement of Science in Boston, MA **received undergraduate honorable mention*.

Kim Martinez (2023-24 cohort)

- Acceptance into Santa Clara University MA program in Counseling Psychology (fall 2024)

Oluwakemisola Kaka (2023-24 cohort)

- Co-presented poster titled "Synthesis of ArnA adjuvants to potentiate colistin in pseudomonas aeruginosa" at the ACS Northern California Undergraduate Research Symposium

Theresa Godines (2023-24 cohort)

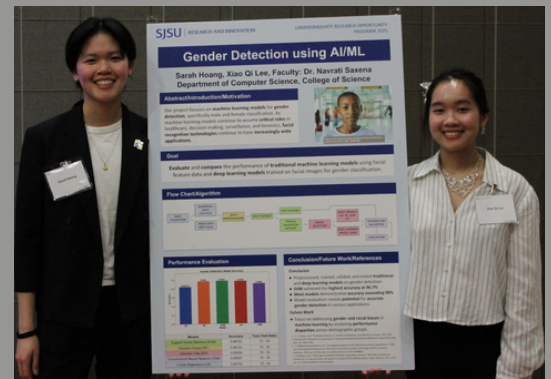
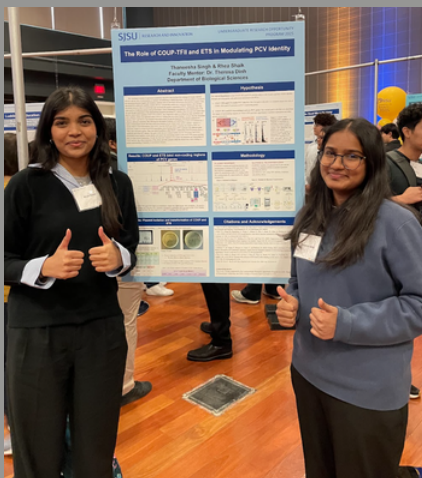
- Presented poster titled "Climate dialogue: Collaboration through connections at the SJSU COSS Showcase (fall 2024)

Spring Events

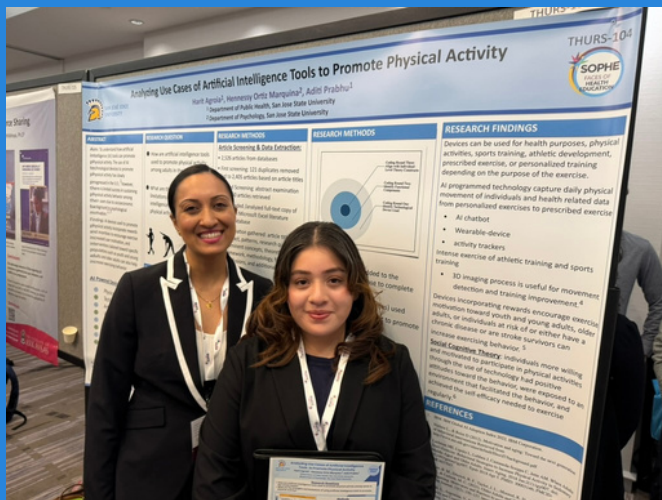
Celebration of Research – April 24, 2025



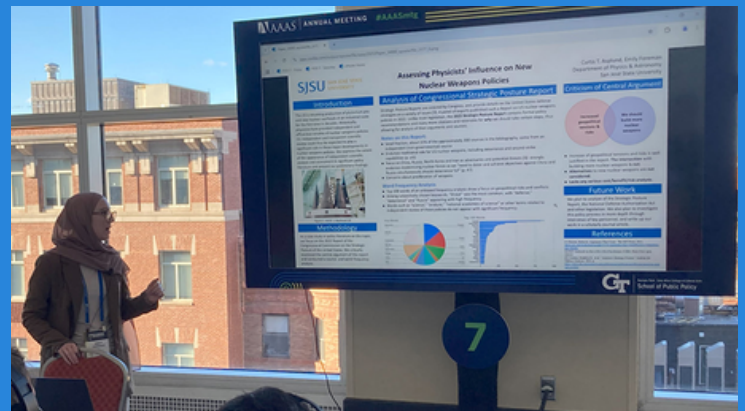
UROP had strong representation at SJSU's fourth annual Celebration of Research. The event gave students the opportunity to showcase the research they have been working on with their faculty mentor over the past year. Each poster represented months of collaboration, hard work, and intellectual curiosity. The projects included investigations on interdisciplinary topics such as assessing collision risks between drones and manned aircraft, the Silicon Valley Pain Index, the role of molecular chaperones in bacterial survival, microaggressions in higher education settings, and evaluating the community impact of the San Antonio Festival in downtown SJ. Congratulations to our 2024-25 UROP student cohort for all their dedication and hard work over the past year! We are excited to see the endeavors they move on to—both here at SJSU and beyond.



UROP Students in Action



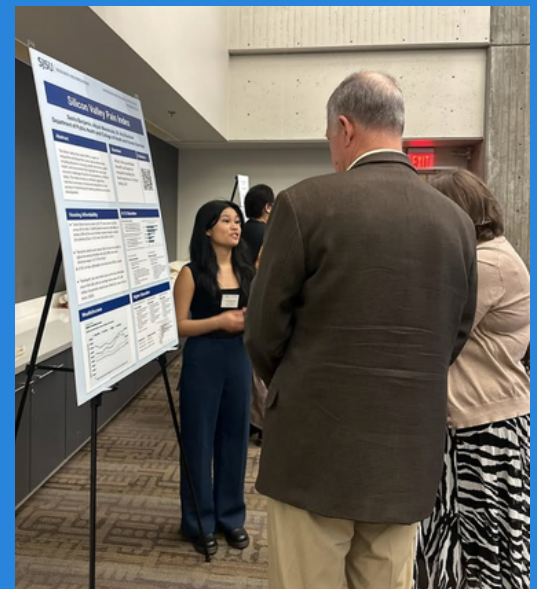
Hennessey Ortiz Marquina (23-24 cohort) and her faculty mentor, Dr. Harit Agroia, present their poster at the Society for Public Health Education conference in Long Beach, CA on April 17, 2025.



Emily Foreman (23-24 cohort) presents her poster at the American Association for the Advancement of Science in Boston, MA on February 14, 2025.



Siddharth Singh, Leena Rehman, Sanjana Ramesh, and Mariam Malik (from left to right; 24-25 cohort) present their research at the Student RSCA Forum during SJSU Research Week on April 22, 2024.



Aliyah Manansala (24-25 cohort) presents her research poster at the SJSU College of Social Sciences Research Showcase on April 23, 2025.

Other Program Updates

2025-26 Student and Faculty Applications

Are you interested in participating in UROP as a student or faculty mentor? Applications for next year's cohort are now live. You can apply directly by clicking on the links below:

- Student application: <https://forms.gle/ytNLGgRhC56M97Bo7>
- Faculty application: <https://forms.gle/5QVg6RUy6cGKqgia6>

UROP Information Sessions

During the spring and summer, UROP will be hosting a number of information sessions for prospective students where we will provide a detailed overview of the program, discuss FAQs, and important deadline information. Follow our website and Instagram page for updated dates in the coming weeks. Our next information session will be on May 26th.

UROP @ the Summer Orientation Resource Fairs

UROP will be attending for all of the summer resource fair orientations. Transfer orientations will take place on select dates in June from 2:30-4:30p, and the frosh orientations will take place on select dates in July from 3-4:30p.

- **Transfer orientations:**

<https://www.sjsu.edu/newspartans/transfer-orientation/>

- **Frosh orientations:**

<https://www.sjsu.edu/newspartans/frosh-orientation/>

Reach out/connect with us

Follow UROP on IG @urop_sjsu

Follow us on LinkedIn @UROP at San Jose State

Email us at urop@sjsu.edu

Learn more about our program at sjsu.edu/urop

UROP introduction video: <https://www.youtube.com/watch?v=k8PPmEVzOBI>