

Ayush Gaggar

*IDEA Center's Spotlight on UC San Diego's
Transfer Engineers*



Quick Facts

Grade: 2nd Year Transfer (undergrad)

Major: Mechanical Engineering with a Minor in
Entrepreneurship and Innovation

Outside Interests: Reading, Teaching, Basketball, Self-Growth

Questions about your experiences:

What was it like starting at UCSD as a transfer student? How has your perspective as a transfer student influenced your journey at UCSD?

Starting at UCSD was a whole new experience, since I was on a whole new campus which was much larger than where I transferred from, San José State University. The classes were more challenging and much larger, the social life was different, but best of all, I was able to take more classes that aligned with what I truly wanted to learn. Being a transfer student has made me realize that my college journey at UCSD is incredibly short, and I need to make the most of my two years here. I've been trying to join new clubs, branch out, find and pursue my interests, and basically become the best version of myself I can possibly be in my last year here!

How did you get engaged in research?

One of the first classes I took at UCSD was MAE 107 with Professor Tolley. It's been one of my favorite classes so far, and he took the time out to prepare easy to understand lectures. I'm currently specializing in Controls & Robotics, and so I was really interested in the work his lab was involved in (Bioinspired Robotics and Design Lab - BRDL). During one of his office hours, I mentioned my interest in one of his research projects, the squid-inspired cephalopod robot, and sent my qualifications over to Professor Tolley. After discussing with the graduate student leading the project, Michael Ishida, I got started designing a motor mechanism! Professor Tolley has been a great mentor to me, as has Michael and the rest of the BRDL team.

Why did you want to be a Peer Educator for Engineering Learning Communities (ELCs)? What's the best thing about being a Peer Educator?

I've always loved teaching and mentoring other people, and have been tutoring for over 5 years so far. I applied to be a Peer Educator because I wanted to be a leader, a mentor, and a peer all at once; I love my job because more than just teaching and reviewing concepts, I also help facilitate and create a community for students. Being a Peer Educator for ELCs is extremely rewarding, and it's always a gratifying experience whenever a former student reaches out to me to say how much being a part of the ELC community helped them. The best thing about being a Peer Educator is definitely the community built within each group of students. I always get a little sad whenever my students move on to the next class in the series, and I've set up discords to try and stay in touch with them throughout the quarters. Especially this quarter, many of my students from previous quarters have taken the initiative to form their own study groups and have become close friends because they were a part of my ELCs! There's no feeling in the world that compares to the rewards of helping others succeed.

What has been your proudest moment at UCSD? Why?

This is a really tough question, because it's hard to choose just one. The top two proudest moments of my journey at UCSD were winning first place at the research convention held by the JSOE and Project in a Box last May, and also getting an autonomous RC car to work in MAE 148. I was only presenting at the conference because I wanted the experience of sharing my research work; before then, the imposter syndrome was always at the back of my mind. The other speakers at the conference were extremely qualified, some working on distinguished projects and some with research already published; I really did not think I had a chance at winning. Professor Tolley and Michael Ishida really encouraged and guided me to apply, and I was able to deliver an engaging and informative presentation on my work!

The other proud moment I wanted to share was working with my team in MAE 148 to incorporate additional sensors into an RC car we had programmed to drive autonomously. This was a huge deal for me, because it was one of the first real-life applications to an engineering project that I was able to work on. I truly learned a lot about programming, controls, sensors, prototype design, and more simply through that one class!

What do you hope to accomplish within 5 years of graduation?

After graduation, I currently plan on pursuing a Phd in Mechanical Engineering, specifically in Controls Systems. I hope that I can get my PhD and begin working in the medical robotics industry, pushing the boundaries of automated advanced healthcare technology.

Do you feel UCSD/JSOE supports transfer students? What could they do better?

Much of my educational success at UCSD has been due to my own two-year plan I made when coming into UCSD. The JSOE professors are also phenomenal, and many of them also helped support me, and other students, during last year's trying times. Transferring from a 4-year, CSU made me one of few people who had a unique path due to the amount of engineering courses I'd already taken at SJSU. I definitely do think that the JSOE can do a much better job of supporting transfer students. Transfer students sometimes had a disadvantage when it came to certain classes; although I never had an issue with this, many of my peers were unable to take certain classes because all of the seats had filled up. There needs to be an orientation or detailed breakdown on how to use all the resources the MAE department has to offer, such as planning classes with a counselor, signing up in WebReg, petitioning classes, and more. No one really told me about how to look up classes, what the course schedule was, how to plan out your classes properly, etc and the advisors were pretty adamant about how it would take all transfer students more than 2 years to graduate. However, I truly think it's possible with the right determination and planning for students to graduate in a timeline they'd like to achieve. Rather than students searching for and attempting to find resources on their own, I think the JSOE can do a better job in reaching out and actively supporting students as they make the transition to UCSD.

From your experiences, what advice would you offer current transfer students? Would you give the same advice if you knew you were speaking with a student who identified as first-gen or a person of color?

My biggest advice is this: you only have a limited time at UCSD, so make the most of it. Dream big, work hard, but also enjoy with friends and explore all that UCSD and San Diego has to offer. Prioritize your mental, emotional, and spiritual health, but also don't be afraid to try new things and make new friends. For me, succeeding in engineering classes meant forming study groups and attending professor Office Hours, so don't hesitate to use all the resources you have at your disposal. My advice wouldn't change much for first gen, POC, and other minority groups, except to say that people like us can have a chip on our shoulder because we have so much to prove to people. I would only say, the only person you have to prove anything to is yourself, so use that chip to motivate you to bigger and better things. Dream big, and know that you have an entire community that has your back!

