

Summary: Throughout my Ph.D., I have enjoyed teaching and mentorship as much as research. I have gained significant teaching experience at the University of California, Santa Barbara as a Teaching Assistant (TA) for courses in Computer Science and Electrical Engineering. In the Summer of 2022 and 2023, I got opportunities to work with the Summer Research Academies (SRA), first as a communication TA for two tracks and this year as a mentor to 4 young researchers. I am especially grateful for this opportunity because I got the freedom to design research projects and goals achievable in a short time. This experience gave me long-lasting lessons on time management, teaching-learning dynamic, and active research through mentoring. The academic and professional skills gained during this program boosted my passion for research mentoring and teaching. Young researchers in the program bring fresh perspectives and tons of energy to the table. Working with them over two summers has encouraged me to apply for the teaching associate position this year.

TEACHING PHILOSOPHY

My teaching philosophy is to create a student-centered environment fostering a diverse, equitable, and inclusive classroom using technology. Education always has been a crucial pillar of my life. One of my greatest accomplishments was earning my undergraduate degree from the most prestigious school in my country. This boosted my career and motivated me to pursue doctoral research in the esteemed ECE department at UCSB. Utilizing my privileged research position at UCSB, I always try my best to give back to the community. The SRA program at UCSB has played a key role in developing of my teaching and mentoring philosophy. With the SRA program, high school students with a wide range of experience and interests get a unique platform to prepare for their undergraduate studies. The speeches delivered by the SRA students about their summer experience during the Pre-College Programs scholarship celebration inspired me. I learned how the SRA program plays a foundational role in promoting first-generation and under-represented students' dreams of high-quality undergrad education. It is all the more encouraging to realize that these students will go on to become future leaders in engineering and research.

Student Engagement. My philosophy to engage students in the classroom comes from reflecting on the reasons why each of them is taking the class. A core course in the curriculum is intended for the students to excel as engineering leaders, researchers, and entrepreneurs. For such a course, my strategy to engage the students in the class material is to relate the topics with their industrial and societal applications. For students who take a class in pursuit of knowledge and their eagerness to learn out of curiosity, my strategy is to focus on the open-ended problems and the research questions. High school students fall under the second category and my goal is to introduce them to the research field through an overview of basic, sophisticated, and latest topics in the research. My teaching pushes for hands-on active learning approaches which prepare students to be quantitative and objective in their learning.

Technology. Judicious use of technology can act as a catalyst in promoting inclusive teaching. Some examples are employing live voting sessions, online survey forms, weekly reflection, anonymizing sensitive discussions, and providing judgment-free platforms to express opinions. Similarly, including experimental data, its visualization, and analysis as interactive computational notebooks in the class material goes a long way in explaining theoretical concepts than simply stating them. For example, when teaching intricate image processing concepts, I prefer to utilize biomedical images to demonstrate the power of theory in addressing health applications. I have developed this teaching method through various opportunities and have found success in using intuitive visualization tools.

My teaching method involves extensive organization and preparation. I prefer to give a holistic picture of the course syllabus in the class while placing each lecture as a piece of the overall story. Then, I often bring this picture back throughout the course to relate individual concepts in lectures. Direct application of a problem at hand to a real-world application by walking through the details with the students in class or through mini-projects is often helpful in elaborating and demonstrating concepts in class.