

Statement of Teaching

Over the last year, I have had the opportunity to teach the course Data Structures and Algorithms to multiple students through different formats. The experience has allowed me to think about my role as an instructor and what benefits my students the most during the learning process. I want to teach because it is a natural way for me to organize, formalize, and discuss ideas systematically while maintaining high standards. As the popular quote says, *"If I cannot explain it simply, I do not understand it well enough."* Also, teaching helps me be accountable for reaching out to every student in my classroom by introducing the topics through different mechanisms that adapt to personal learning preferences.

I enjoy teaching since it allows me to pass my knowledge and expertise to students while positively impacting their current studies and future careers. I feel such impact is more noteworthy in Computer Science because students learn to transform ideas into software and share it with everyone. I had students who told me they took topics from my courses and used them to write programs they were well pleased with. Examples of these programs include games, mobile apps, and even software to assist their family business. It delights me to have students who take what they learned and use it to build applications that contribute to their resumes and portfolios before graduation.

My pursuit of an academic career is close to my experience as a researcher and software engineer. While doing research, I had professors and principal investigators who inspired me to go beyond expectations when proposing and communicating ideas. That includes knowing my audience and adjusting my presentation to please everyone. On the other hand, my work as a software engineer allowed me to interact with customers and communicate with them in layman terms. Both experiences helped me polish my communication skills to discuss formal content using adequate words for my listeners.

To teach effectively to my students, I consider the spaces for them to learn and connect previous ideas with the current ones during a lecture. In every session, I start by giving a summary of the topics from the last lecture. Then, I introduce the topics of the day, so my students have a map of the lesson. As we progress with the discussion, I give examples that show previous concepts interacting with the new ones. I have found this approach useful when teaching data structures since more sophisticated concepts tend to generalize over fundamental ones. I noticed that some students discover those connections on their own and present them during class as "what if" questions. I take advantage of such

questions to acknowledge their conclusion and share it with everyone in the classroom, so all my students are aware of the connections and learn them as well.

Reflecting on my own time as a student helps me experiment with different teaching methodologies and styles. My most memorable moments as a student came from professors who shared anecdotes where they had to use the discussed topics. I found these anecdotes meaningful since they allowed me to picture myself as a professional dealing with similar scenarios. Additionally, I valued times when professors helped me think about the bigger picture where all concepts fit rather than rote memorization. One of my goals while teaching is to provide similar experiences to my students. For example, when teaching sorting methods or collision management in hash tables, I encourage students to think about these as tools and decide when to use each of them objectively. When the topic is adequate, I share short anecdotes from my career when I had to make such a decision and what problem aspects I took into consideration.

I also consider my interaction with students outside of the classroom to get insights into their current challenges. Doing so has been helpful while teaching Data Structures and Algorithms due to some students facing coding interviews to get internships. During the first day of classes, I encourage students to use the course as part of their preparation for the application process. Sharing my experience with such interviews allowed me to build rapport with students and discuss their concerns. I have these discussions after class, during office hours, or by email. So far, the outcome has been students with successful processes and internship offers. Also, students told me their interview questions and the difficulties they had. Their experiences help me think about good examples for the following term and be up to date with current candidate selection practices.

All in all, my experiences, skills, and knowledge in Computer Science have enabled me to be a confident instructor. I am committed to helping and advising students as they become professionals. For that purpose, I continue doing research and learning new topics to teach to my students. That is why I believe teaching is the right way for me to keep growing as a professional.