

Teaching Statement

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I gained my first teaching experience when I was an undergraduate student, and the audience was a group of sophomores studying probabilistic methods in engineering. Excited and anxious, I reviewed the materials again and again, and even deliberately prepared a set of questions which I thought may be intriguing to the students. The first class went smoothly with 30 students attending. However, in each of the later classes, less than five people showed up. I was baffled and wondered what went wrong, until one of the students who stayed told me: although useful, the material I prepared was too hard for the students, most of who anticipate me to just go over the textbook for them.

I was surprised and shamed by just delivering what I had wished to teach in spite of students' needs. That was my very first lesson learned about teaching — doing homework about the audience is as crucial as getting familiar with the textbook to the success of teaching. Years later, as I had a chance to audit a course taught by my advisor, who is a master of the teaching art, I realize even more how important it is. The course was about operating systems, one of the courses I considered hardest to teach, as it is full of obscure concepts that are vaguely connected. To my surprise, my advisor explained those concepts quite well, and he managed to use plain language so that students can easily follow. My advisor not only knows his students' capability well, but also can guide them through their ways. Following his example, in my preparation for classes, I would imagine myself as one of the students to test if the way I lecture can be understood with ease. My teaching was well-received, as students told me they prefer to attend my class as I could explain complex concepts cleanly.

Another lesson that I learned from my advisor is to draw interests. Keeping students interested is particularly hard from my own teaching experience. Students would walk out or doze off when they are no longer interested. Effective teaching shares similarity with good storytelling in that both need to capture the audience's attention all the time. In my tutorials for a fundamental programming course, full of easy-to-be-disturbed first-year students, I used a variety of tricks to grab their attention. For examples, I would tell short jokes in the middle of a lecture; I would raise my voice and repeat the content three times when it comes to the key points. I also found it useful to provoke and interact with the students. In most of my classes, I frequently check if students are on the same page with me, or have them answer some motivating questions. However, I think the enthusiasm of the teacher for the subject is most important above all — students should be inspired and enjoy the class as much as the teacher does.

Apart from lecturing in large classrooms, I also had some experience in coaching small groups of students. I was lucky to have co-supervised half a dozen students during my graduate studies. Different from classroom teaching, the teacher-student communication in small groups is more frequent and personal, but no less demanding. From my observations, students have different talents and incentives; as a teacher, it is critical to appreciate the diversity, and tailor the teaching schemes specifically. For example, some students prefer to learn through hands-on experience, whereas others would like to read everything before doing it. As computer engineering is a subject which values both critical thinking and hands-on practice, I would encourage the former type of students to think deeper before hacking into anything, and the latter category of students to get more coding done. The supervising experience will help me in teaching a graduate seminar course where students are in small groups targeting at research-oriented projects.

Given my background, I am interested in teaching courses on probabilistic methods, computer programming, data structure and algorithms, operating systems, mobile application development, etc. I am also prepared to teach

advanced graduate courses on machine learning, data privacy, or seminar courses related to security and privacy in machine learning. In addition, I am willing to guide undergraduate students on projects in the general field of privacy, machine learning, and mobile computing.

I am passionate about teaching, and I consider it a sacred job to influence others with the power of knowledge. The job requires not only domain expertise, but also excellent communication skills. It is my wish to extend my teaching experience to a new faculty position and help more students to learn and thrive.