

# Teaching Statement

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I have found that teaching can be a very rewarding experience. I derive deep enjoyment when students understand the material that I explain and answer back with provocative questions. Furthermore, I find that the process of teaching serves to solidify my own understanding of a subject and leads to new ways of thinking about a problem.

When teaching a systems course in computer science, I believe it is very important for students to gain experience in actually building a system; to “get their hands dirty”, so to speak. So many issues in systems cannot be learned adequately from a textbook — actual experience is far more valuable. When I think back to my experiences in courses at MIT and Stanford, I got much more out of the courses that included hands-on project elements. From the opposite perspective of being on the teaching staff, I have noticed that in courses with projects, students are in general far more knowledgeable about the material than in courses without projects. However, when adding a project element to a course, it is important that the material in the project supplements the material in the class. One must be careful that the project is not overly difficult or tedious grunge work. In the past, I have accomplished this by supplying a framework to the students and giving them well-defined goals.

At MIT, I was a lab assistant for 6.001, the introductory class for the Computer Science major. The job of the 6.001 lab assistant was to provide help with course material, answer student’s questions about the problem sets and class projects, and run review sessions. Due to the nature of the class, most of my time was spent tutoring the students at the bottom who were in danger of failing. This was a challenging but rewarding experience, as I learned how to quickly identify a student’s level of understanding and to tailor my explanations to match. I was also a teaching assistant for 6.035, the compilers class. I taught recitations twice a week to a section of 16 students. It required a lot of effort to prepare material for the class every week, but I dedicated myself to it. In the final grades, my recitation had the highest average grade out of all of the sections.

At Stanford, I was a teaching assistant for CS243, Advanced Compiling Techniques. While I was a TA, I spearheaded the switch from the antiquated SimpleSUIF compiler to a new modern Java-based compiler framework, while revamping the course to include more modern topics like dynamic compilation and garbage collection. This required creating a lot of new infrastructure and documentation. However, the new course material was a great improvement, and the CS243 class is still using my coursework and compiler infrastructure today. I was also a teaching assistant for two advanced topics classes, CS343 (Advanced Topics in Compilers) and CS240 (Advanced Topics in Operating Systems). These classes mostly entailed reading research papers and discussing them in class. Although the material was the most difficult in these classes, they were also the most fun to teach. I worked closely with students who did not have as strong of a background as other students, helping them individually with the material.

One of my most challenging teaching situations was when I gave a series of lectures at University of Tokyo and Tokyo Institute of Technology. In these lectures, I had to deal with not only the material, but also the language and cultural barriers. One of the tricky differences was the fact that the Japanese audience was very passive — they did not ask many questions or give non-verbal cues, so I found myself wondering if they had understood the material. However, by the end of my stay in Japan, I was able to give my lectures in fluent Japanese and also more effectively engage the audience.

I am also looking forward to advising students and working with them on research. Last summer, I worked closely with some undergraduate students over the summer as part of the CURIS program, a program that gets Stanford undergraduates involved in Computer Science research. My experience with the CURIS students was very rewarding; in fact, I am coauthoring a paper with one of the students based on his summer project.

Based on my background, I believe I am qualified to teach courses in compilers, programming languages, software engineering, and operating systems at the undergraduate or graduate level. I am looking forward to the opportunity to teach and advise students at a world-class university.