

# Teaching Statement

In the years spent as a graduate student, I was exposed to a broad range of research areas and exciting problems, and have interacted and collaborated with a variety of fascinating people. I have benefited immensely from and very much enjoyed interactions with other students, both those senior and junior to me. I have had the opportunity to teach on numerous occasions: as a teaching assistant, a substitute lecturer, and counseling students individually.

My first teaching experience was in Fall 1999, when I joined the graduate program at USC. I was a teaching assistant for the USC undergraduate course *CS 201 – Software Development*. I designed and taught the practical aspects of this course, which included exercises in C++ and Microsoft Visual C++. Since all instruction was conducted in a computer lab, I chose to briefly cover the most important programming concepts introduced in much more detail in the lecture part of the course, and then guide students through various exercises where they would gain hands-on experience with programming in C++. The design of these exercises was especially challenging: the class had over 100 students and although a majority of the students had little programming experience, a few were very experienced programmers and would be bored with simple projects. I therefore created exercises of various levels of difficulty to engage all students.

I was also a teaching assistant in Fall 2001 for the graduate course *CS 589 – Software Engineering for Embedded Systems*. In addition to presenting research papers assigned by the instructor, students also worked on a class project individually or in small teams. The projects involved “real” research, and were selected by students from a set of possible ideas. I was involved in creating the project ideas, guiding the projects, and evaluating them. A particular challenge I faced was balancing the innovative aspects of a truly novel research project with the need to keep students grounded, with realistic goals, and aware of their progress at all times. In two other instances of this course (offered in Fall 2002 and 2003), I was also involved in creating project ideas as well as exam questions. I also taught several lectures for this class.

As a graduate student I participated in several advanced courses in software engineering and distributed systems that examined selected papers in the given subject area. I benefited greatly from these courses and would be excited to organize similar courses at the graduate level. Such advanced courses provide students with insights into the foundations as well as the latest advances in selected fields of interest. They also help students to develop an interest in the field, and to generate original ideas for course projects. Such projects can sometimes grow into successful research topics and result in publications and theses.

For the past six months, I have been working for Google, Inc. Google is a rapidly growing, relatively young company where most engineers are young Ph.D.s. To date, I have participated in several projects, involving teams of different sizes and engineers with different experience levels (ranging from senior engineers to new hires). In that sense, my experience at Google is comparable to the two companies in which I worked prior to attending graduate school. This overall experience has helped me realize, from the practical perspective, what kind of knowledge and education is needed to make a successful engineer. It is highly important to relate the concepts taught in the classroom to real-world examples, and I believe that my industrial experience will help me do this effectively.

I am looking forward to my teaching appointments in my future academic career. As my research spans different areas of software engineering, distributed systems, and theory, I believe I

can provide a unique perspective, particularly in the teaching of software engineering courses. I believe that it is highly important to teach students how to analyze the interconnections between various disciplines of computer science. I want to help students learn to be critical and skeptical, to question what they have learned, and to actively seek knowledge, not only within their narrow research foci. Effectively communicating course content is not enough to be a successful teacher. What is also required is an ability to help the students recognize the benefits of critical thinking and having their preconceptions challenged.