Teaching Statement

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Being an educator and working with students are two of my major reasons to pursue an academic career. During my graduate studies, I have accumulated various teaching experience, which constitutes an important chapter in my academic career. My first teaching experience occurred about six years ago when I was a master student in the Department of Computer Science at Peking University. I was assigned as a teaching assistant for a graduate level course, "Advanced Software Engineering." In that course, I lectured several times while the professor was away for conferences. Feeling nervous at the beginning, I soon found myself enjoying the whole teaching process for it not only contained dissemination of knowledge but also inspiring interaction with the students. In Fall 2005, I worked as a TA for CS 102, Introduction to Computing for Non-Tech Major, at the Department of Computer Science at UIUC. In this entry level class, all the students are undergraduates and most of them had little knowledge about computer science. I led three lab sections in this course and was actively involved in varied teaching issues such as class planning, exam design, and grading. In addition, during my Ph.D. study at UIUC, I continuously assisted my advisor, Prof. Grigore Rosu, with some of his classes and was invited as a guest speaker, lecturing on diverse topics on software engineering, programming languages, and formal methods in different courses.

My main goal as an educator is to teach independent learning and critical thinking to students. Building on my own experience of being both a student and an instructor, as well as lessons learned from professors I worked with, I strive to foster an interactive environment in the classroom to motivate active involvement of the students. For example, when I led the lab sections in CS 102, I kept my lecture short to leave more time for experiments and highly encouraged class discussion. I also structured the lab work in a way that stimulates more active thinking and brings more "hand-on" experience to the students. I did this with a variety of teaching techniques, including using real life examples to make abstract concepts concrete and involving students in the lab decision making whenever possible (e.g., which new features to add into the program we had implemented). It took me much effort for this course but the experience was rewarding. Most students enrolled in my sections got B or above grades at the end of the semester and many of them reported that they became much more confident and interested in computer-related study after attending my lab.

Given my background, I am interested in and feel confident about teaching introductory courses on programming and algorithms for the undergraduate, including *Introductory Programming* and *Data Structures*, as well as more advanced graduate courses on programming languages, software engineering, and formal methods. I believe that successful teaching needs more than simple knowledge dissemination; guiding students to think and study in a critical way from the right beginning is as important, if not more important, for their professional development. Therefore, I intend to design my course in such a way that it not only requires students to understand the class information but also encourages them to develop the skills of learning and applying new knowledge independently. I will do it by elaborating the course structure to give more room to problem solving, devising assignments and examinations to motivate independent and critical thinking. Moreover, I am an enthusiastic supporter of using modern technology in education, such as web technology, to create an interactive, intuitive learning environment. I am also familiar with various class room teaching technologies and have good knowledge of different kinds of programming, which I would like to use in preparing instructive courses. In summary, I believe teaching is an integral and critical component of modern scholarship and have gained plenty of successful experience on teaching. With great enthusiasm, I look forward to teaching students and working with them as a faculty.