Statement of Teaching Interests

More than anything else, a desire to teach at the collegiate level motivated my pursuit of a PhD. This passion ignited in only my second term on a college campus, when I was offered a position as a recitation instructor for CS1501, Georgia Tech's introductuctory computer science course. That initial experience was so addictive that I continued to serve as a recitation instructor or teaching assistant each term for the remainder of my four years at Georgia Tech, including five different classes over the course of eleven academic terms. My years at MIT have been tightly focused on research activities, yet I taught two additional courses, one as a recitation instructor and the last as a full-fledged instructor, along side several professors. In total, these seven different courses span the entire range from freshman-year introductory courses to the advanced graduate level.

Regardless of the level or subject matter, my teaching is driven by a quest to impart intuition and inspire curiosity. Facts and methods learned by rote are likely soon forgotten, but the seeds of interest, once planted, often sprout anew. During my four years of teaching at Georgia Tech, I had the opportunity to teach several students multiple times as they proceeded through the curriculum. I found a great sense of satisfaction in watching students who I taught in the first introductory course succeed at progressively higher and higher levels. Just recently, I chanced upon a student whom I recalled having considerable difficulty in my CS1501 class as he searched for direction in his studies. Now seven years later, he informed me that he had not only successfully graduated with a degree in Computer Science, but was employed as a software engineer. The joy the news brought me reaffirmed my belief that I have chosen the right vocation.

My broad academic background equips me to teach a range of undergraduate courses, from my core expertise in networking and operating systems to more distant topics such as computer architecture, algorithms, and discrete mathematics. I take pride in my ability to make complex material accessible at many levels. I strive to frame lectures around intuitive explanations backed by concrete examples. Examples, whenever possible, are reinforced with illustrative problems. I try to craft exam and homework problems that not only reinforce material covered in lecture, but are learning experiences in themselves.

At the graduate level, I look forward to teaching topics directly related to my research, such as computer networking and advanced operating systems. It is my firm belief that graduate courses in computer systems should be project-based. Carefully crafted class projects frequently produce publishable results, and, more importantly, motivated researchers. To that end, I would be particularly excited to develop a seminar course on mobile internetworking or content distribution networks as a vehicle for introducing students to my areas of research.

Classroom learning is only part of the educational process. Once a student has been motivated to move beyond the classroom and into the research laboratory, the professor's role takes on an additional dimension. A student's advisor can greatly influence the success of student's graduate career, not only through straightforward means such as exposing students to interesting and topical problems, but in far more subtle, yet likely more critical ways like thoughtful selection of office-mates and project teams. My most rewarding experiences as a researcher have come from deep, collaborative immersion in a focused problem area. I believe such experiences are critical for developing a taste for promising research areas and defining crisp problems to address. I have watched as my thesis advisors, Hari Balakrishnan and Frans Kaashoek, have constructed productive and thriving research groups. While the flavor and personality of the two groups differ, in my view, the groups share a similar cohesive spirit of collaborative exploration and critical self-examination fostered by careful mentoring. I look forward to continuing this tradition of collegial collaboration as I form my own research group.