Teaching Statement

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I remember the feeling of sitting in my first computer science class at MIT, trying to figure out how to write a recursive Fibonacci calculation in Scheme, and realizing that I was going to be a computer scientist. I want to instill the feeling of that moment in my students. They should feel giddy about the creative, magical side of computer science: the infinite number of ways to write a computer program, how to appreciate good programming style, and how to take pride in their work. I want to convey the excitement that I feel when my understanding of a system gels into a crystal-clear idea, and I want them to have the thrill of diving into a problem, only to raise their heads four hours later, exhausted but accomplished.

At the same time, I want to take away the magic. I want my students to look at a computer and know exactly what will happen when they flip on the power. They should feel the confidence of knowing that they could build any computer system from the ground up, given enough time and the right resources. They should be able to solve problems with a cold, calculating eye that doesn’t get caught up in irrelevant details.

Those are my goals, but I know that it is enough of a challenge to simply explain the difference between iteration and recursion. Students who have three other classes with final projects all due on the same day don’t often feel giddy about their classes, at least not in any good way. My pledge to them is to work hard to give them clear and concise lectures, interesting examples, well-defined assignments, and a responsive and caring course staff. Classes are too short to engage in adversarial student-teacher relationships; if students will work hard for me, I will work hard for them.

As a teaching assistant for three semesters, I carefully planned my recitations to cover the essential course material, so that students were well-prepared for their assignments and exams. But I also included some advanced material and examples to maintain the more capable students’ interest. I solicited student feedback in the middle of the semester, and used that feedback to improve my teaching in the second half of the semester. Because I believe strongly in being available to my students, I was always available by appointment, in addition to my regularly scheduled office hours. When working with individual students, I enjoyed helping weaker students build their skills, while challenging the stronger students. And as a head TA, I also concentrated on course management, so that students were clearly informed about assignments, exams, and projects. This work was appreciated by my students: student evaluations described me as “helpful” and “timely,” and praised me for “providing useful examples and being well-prepared.”

I have taught extensively outside of the classroom. I’ve given tutorials on my research to professionals, and lectured to graduate student seminars. As an avid sailor, I have spent countless hours teaching and coaching both children and adults, and I have given technical seminars on celestial navigation, including hands-on
exercises.

Finally, although I want all of my students to succeed, my time serving on the MIT Committee on Campus Race Relations has made me aware of the unique experience of many minorities and women in my classes. I know that they have far fewer role models in computer science than in some other subjects, and may feel isolated in classes. My goal is to lead an inclusive classroom where all students feel welcome and have an opportunity to learn and contribute.