Teaching Statement

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Philosophy. I enjoy teaching and interacting with students. This is the main reason I am choosing an academic career.

I believe that the Socratic Method makes students to learn better. This interactive method retains student attention during a class and makes them think and learn. I have had the opportunity to try it in a few lectures and I received very positive feedback from students, and I intend to employ it in the future as well.

I strongly believe that how well students learn is more important than how much they learn. If the student is not learning, it hardly matters how much material a teacher covers. Accordingly, I will emphasise on students understanding the core concepts of a course during lectures and make them better by focussing on the details in assignments.

Experience. I have been a Teaching Assistant once for an Undergraduate Operating Systems course and twice for a Graduate Compilers course. I was most satisfied with my effort as a TA for Dr. Keshav Pingali's Graduate Compilers course. I will elaborate on this experience here.

I was more actively involved than performing the regular duties of a TA, such as setting up infrastructure, holding office hours and evaluating assignments. I designed programming assignments for the course. In these assignments students dealt with a simple language that was a subset of C. We provided them with a frontend that generated both a human-readable three-address output and a human-readable Abstract Syntax Tree (AST). Students read in three-address code and constructed a control flow graph, implemented scalar optimizations (dead code elimination, constant propagation, and partial redundancy elimination), constructed a Static Single Assignment (SSA) representation and performed scalar optimizations on the SSA form. On the AST, students performed loop optimizations such as tiling and interchange and studied these optimizations as applied to matrix multiplication on a particular hardware architecture. These assignments have since been used in a subsequent course at UT.

During my office hours early in the semester I found that students, especially those with a non-CS background were experiencing difficulty. These students were not sure how to approach the assignments and did not know what the best practices were. I volunteered on my own and conducted discussion sessions. I went over the material taught in class and how it was related to the assignment. I explained possible solutions to the programming assignments. For my effort, the Department of Computer Sciences awarded me a *TA Excellence Award - Honorable Mention*.

Courses. I would be most comfortable handling introductory programming courses, and graduate and undergraduate compilers courses. To a lesser extent I would be able to handle undergraduate systems courses in Programming Languages, Computer Architecture, Operating System and allied areas.