

I was lucky to encounter excellent professors in my undergraduate and graduate education who passed on their love of computer science to me. I enjoy teaching and mentoring students, and one of the reasons I am seeking an academic job is so that I can inspire and educate students. At Wisconsin, I had the opportunity to teach an undergraduate course and mentor several students in research.

My main teaching experience comes from being the instructor for the Introduction to Operating Systems course (CS537) in Fall 2014. I had 80 students in my section, and I was responsible for lectures, weekly discussion sections, exams, and projects. The class had undergraduate and graduate students from the CS and ECE departments. The class met twice a week for 75-minute lectures. The lectures covered basic material such as memory virtualization as well as advanced topics like hypervisors and the Google File System. Students got hands-on experience by completing five projects over the course of the semester, with each project involving user-space programming in Linux and kernel programming in xv6 (an educational operating system developed at MIT). I led the weekly discussion section, and uploaded a captioned screencast so that students could review later. I turned one of the projects into a contest: who can implement the fastest `malloc` given a workload? The winners received custom CS537 t-shirts.

Apart from teaching CS537, I have given guest lectures in OS courses and TAed an introductory course. I gave guest lectures on journaling and the Optimistic File System for Remzi and Andrea Arpaci-Dusseau in their undergraduate and graduate Operating Systems courses in Fall 2013 and Spring 2014. I was a teaching assistant for the Introduction to Programming course (CS302) in Fall 2009. The course had 300 students and 5 TAs. As part of the course, students had to complete Java assignments in the lab with a partner. I was partly responsible for creating these assignments, and guiding students through the assignments during lab sessions. Apart from these assignments, I was also responsible for creating graded projects. To make the projects fun, I designed each project such that it resembled a game.

My teaching philosophy is centered around the following four aspects. First, I make sure the class is **interactive**: I walk around during lecture, effectively using gestures and verbal cues to get and hold the attention of the students. I ask questions that allow students to identify the crux of the problem and progressively solve it. Second, I make sure lectures contain a **mix of theory and practice**: I explain the theory on the blackboard, and follow this up by showing demos to make the problems feel real. Third, I provide **historical context** when I can: I try to provide the background as to why we are learning a certain technique, or where the problem originated from. This motivates students to understand a problem more deeply, when compared to jumping straight-away to an abstract problem. Finally, I make sure to get **regular feedback**: this allows me to tailor the course material for the current set of students. For example, I requested feedback in CS537 after the midterm. Many students asked for a list of questions based on each lecture; I implemented this soon after and got numerous emails from students mentioning that it helped them check their understanding of the material.

I was fortunate enough to work with many excellent graduate students at Wisconsin. This included having junior grad students work with me on a project I was leading (*e.g.*, Optimistic File System [SOSP13]) as well as guiding and supporting a project led by another grad student (*e.g.*, ALICE [OSDI14]). I guided Ayoosh Bansal on work testing SSDs on power failures. I also guided Vijay Kumar and Dinesh Thangavel on work exploring different ways of implementing durability notifications in software. Apart from this, I have guided several teams doing course projects in the graduate Advanced Operating Systems course. I have enjoyed mentoring each student; it was extremely rewarding to see them gain confidence in their abilities as independent researchers. My mentoring experience taught me how to communicate effectively with different students: some students respond to conceptual diagrams, while others prefer walking through code.

As a new faculty member, I would be qualified to teach courses in programming, algorithms, data structures, operating systems, distributed systems, and cloud computing. I would be able to lead advanced topics courses in storage, systems building, kernel hacking, and file-system development. I would be happy to teach courses outside my immediate area of interest.