

TEACHING STATEMENT

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I believe that one of the most fulfilling and exciting aspects about being in academia is the opportunity to impart knowledge and inspire both undergraduate and graduate students. Throughout my 20-year student life, I have been very fortunate to study under many great teachers. They helped me find and solidify my interests in science and encouraged me to be brave in the face of obstacles. I learned from them that the role of a teacher is not only to deliver the knowledge straight from books but also to educate them on how to acquire such knowledge themselves, find their real interests and stimulate these further, and finally guide them so they can find the career path they want to pursue.

I have been involved in teaching since I was an undergraduate student. I enjoy the interaction with my students and feel rewarded by every single achievement my students obtain. Preparing lessons and questions for them further deepens my own understanding of the subject matter, which in turn improves the depth of my research.

Teaching Philosophy. I believe that students learn best as active participants in the classroom. A successful lecture seeks not only to simply disseminate information, but also to lay the groundwork for the student to discover and understand the material anew. As a teacher, I strive to provide a highly-interactive learning environment to let the information flow fluidly between me and students as well as among my students themselves. I encourage them to ask questions which is an excellent way to deepen their understanding of the topic. Then with my system research background, I use my experience with real-world networks and systems to inspire students.

As an educator in the system area, it is important to keep the students aware of the real-world and of new technologies. The students will be more interested and excited to learn if they think they are discussing and building real systems that are being used every day. Keeping them aware of new technologies will also help fuel their interests further.

Teaching Experience.

My teaching experience in graduate school started during my second year as a graduate student. I was the only teaching assistant for the Introduction to Computer System course with 60 students. This is an introductory-level class for freshmen with no engineering background. The first lecture was not successful because I did not realize the difference in knowledge background would create a communication gap between me and my junior students, some of whom did not even have any computer experience. Therefore, I changed the style and organization of my lecture and tried to explain the topic to them in such a way that can easily be understood. I prepared and taught six-hour laboratory sessions every week. I also designed their homework assignments to make them more interesting. For example, I designed questions using scenarios close to their every-day life such as dormitory assignment, library management, and popular movies. At the end, I feel rewarded when my students expressed strong interest in computers and engineering. I therefore encouraged them to discuss their interests and insights with one another. Likewise, I suggested that they give presentations about their projects in the class. This was a challenging experience for me as it involved keeping 60 students, who had varying levels of familiarity with the material, interested and engrossed in the topic.

In my third year, I taught a course on Computer Networks along with my advisor Professor Mao. It is a very different teaching experience as this is my own research area where my interest lies. Therefore, I took up the task enthusiastically and taught 1-hour discussion weekly, created homework questions, and helped the professor prepare exams for the course. To inspire the students' interest in computer networks, I brought with me materials from the real-world into the classroom. For example, when I discussed the routers and switches, I introduced state-of-the-art router technologies supported by industry vendors like Cisco and Juniper. I mentioned the new visualization technologies and security features added in to traditional routers in the latest version of routers. I even once prepared and gave lectures on research topics that I had previously worked on. As a result, the students were very excited with learning new technologies and the challenges these bring.

During my graduate years, I likewise gave a number of talks at Michigan, in top academic conferences and with industrial researchers as the audience. I also gave several guest lectures in the Advanced Computer Networking class in our department several times.

Teaching Interests.

I can teach a broad set of courses, in the area of Networking, Operating Systems, Databases, Programming Languages, and Probability at the undergraduate level. At the graduate level, I can teach a number of standard

networking courses such as Internet Security, Network Routing, Multimedia Networking, Network Programming, Distributed Systems and advanced topics in related areas. In addition, I intend to introduce new advanced graduate level classes. For example, I would like to organize new courses in the interdisciplinary area between networking and machine learning, networking and database, and so on. These topics will help students find new problems and generate dissertation ideas that are highly novel and have great impact to the field and to the society.

Making undergraduate students passionately involved in research is one of my main goals. Personally, I have benefitted from being actively involved in research groups as an undergraduate student, where I have afforded the opportunity to learn various interesting projects. Thus, I think assisting undergraduate students who are interested in research is another important aspect of teaching.

I am likewise interested in helping women students enjoy their study and research in computer science. In fact, I have actively participated in the Club of the EECS Women Students in the University of Michigan. I have been helping my advisor mentor new female students in our group. It gives me great pleasure to work with them and give them advice on their graduate studies and research direction. Therefore, I would like to continue such effort, encouraging and helping more women students to pursue their interests in computer science.

In closing, with my interests, experiences, and views on teaching outline above, I am eagerly looking forward to the opportunity to teach and advise students at your university.