

Teaching Statement

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I enjoy teaching and advising students. This is one of the primary reasons why I choose to pursue an academic career.

I have quite a lot teaching experience. At Northwestern University, I participated in a one-year teaching assistant training program, in which I worked with undergraduate teaching partners to improve my teaching skills. Every week I met with them for two hours to teach them computer science and various other subjects using either blackboard or Powerpoint slides. They not only gave me many valuable feedbacks, but also help me understand how undergraduates think and what their general learning needs are. After that, I worked as a teaching assistant for two different classes. The experience further honed my teaching skills through project recitation and Q&A sessions.

From my teaching experience, I believe in the following strategies in teaching. First, a teacher must stimulate the interest of his students. Without interest, it is hardly possible for the students to do well in the class. From my observation, students are more interested in topics related to real-world problems and latest research findings. For example, when I talked in my class about how Gmail sessions can be stolen on the open or shared-key Wi-Fi, such as the ones people used in coffee shops, most of the students showed great interest in this topic. Moreover, a teacher must be passionate about what he teaches. The enthusiasm from the teacher can be infectious in a classroom. A good teacher needs to help students actively participate in the learning process. He should ask the students to propose the solutions by themselves and gradually lead them to the correct answer. He should encourage the students even when they fail. Lastly, personally I like the professors who present the course material in a highly organized matter. This not only helps the students understand and grasp the knowledge, but also improves the logic reasoning ability of the students.

Another privilege of an academic career is the opportunity to advise and mentor students. I deeply enjoy and have been actively involved in student mentoring. In the NetShield research project, I acted as the leader of other four graduate students. I also acted in an advisory capacity to younger graduate students including research direction discussion, career path, internship, *etc.* My experience so far made me believe that I am good at it. But I do know that research itself can be a very hard process, and that mentoring involves a lot of responsibility. I believe that a good mentor needs to understand his students, needs to know what are the strength and weakness of them, and needs to keep track of their career interests. This knowledge will greatly help a mentor on how to advise his students. A good mentor should give enough but not too much freedom to each individual student based on their ability, should provide detailed guidance when the students need it, and should gradually encourage and let them have more freedom to choose what they want to do. If the students are well directed, I truly believe that they can indeed make miracles. Moreover, for a mentor, I believe it is very important to procure the resources the students need for their research, although, sometimes, such resources are hard to get. For example, my advisor, Dr. Yan Chen, worked very hard with Northwestern IT department and finally helped me set up a honeynet with 10 /24 networks, which greatly benefited my research.

My academic background makes me well-suited for teaching courses in security, networking and system at both the introductory level and the advanced level. For undergraduate or introductory level courses, I can teach subjects such as Computer Security, Introduction to Networking, Operation Systems, Computer Systems, and Data Structure. I will focus on fundamental concepts and implementation skills in these introductory courses. I am also interested in teaching advanced graduate level courses in network and system security, or network measurement that address state-of-the-art research topics such as intrusion detection, malware defense, and Web security, *etc.* In addition, I will actively pursue education grants from NSF and other funding agencies.