# Gang Wang TEACHING STATEMENT

The opportunity to teach and work with students is one of the primary reasons for me to pursue a career in academia. During graduate school, I have had a great time to work as a teaching assistant in multiple Computer Science courses, and mentor undergraduates and masters students in various research projects. Working with younger students is inspiring and rewarding. I am very much looking forward to future opportunities of teaching and mentorship as a faculty member.

***Teaching Experiences.*** At UCSB, I have assisted teaching in multiple Computer Science courses at both introductory level (*CS40: Foundations of Computer Science, CS64: Computer Organization)* and advanced level (*CS176B: Networking Programming*, *CS276: Graduate Networking)*. My responsibilities include leading discussion and lab sessions, grading homework and exams, and designing class projects. This gives me an opportunity to closely interact with students of diverse background and knowledge levels, and gain a better understanding on their needs and difficulties in learning. The most rewarding moments come from the time when I sit beside the students to teach them programming step by step, and witness students of poor programming basis striving to excel with my help. It is a feeling of accomplishment to see my teaching makes a positive impact. Some of students even joined me later on research projects.

***Teaching Styles.*** My teaching experiences have helped me to form my own teaching styles. For Computer Science classes, I like to use the example-driven teaching method, to express high-level concepts with real-world examples that students can relate to. For instance, to explain the importance of secure network connection, I demonstrated an example of how attackers can acquire Facebook passwords when HTTPS is disabled. I find examples like this are highly effective to encourage students to ask interesting questions and explore new knowledge beyond the subject being taught. In addition, I believe our job is not only to teach knowledge, but also to cultivate a mindset for critical thinking and innovation. I find that introducing some positive "competitions" to the classroom can greatly stimulate students to think outside the box. In the *Networking Programming* class, I hosted the final project as a "Capture the Flag" game where students teamed up to develop smartphone clients to compete with other teams. It is amazing to see some great hacking ideas coming from the students and their deep thinking in computer networking and security.

***Mentoring.*** Advising students is as important as teaching. While I am a PhD candidate, I am fortunate to mentor a number of younger students in our lab including 4 masters students, 4 undergraduates and 2 high school students. I design high-level research projects and have one-on-one research meetings with them on a weekly basis. I find that each student is unique in personality and working style, and I have learned to tailor my mentoring style to bring out the best of the students. For example, for young and inexperienced students, I tend to be hand-on and help them with detailed project planning and specific technical questions. For senior students, I would give them more time and space to think independently and be available for discussions about their ideas and problems. I always keep an open and accessible relationship with students. They often come to me for general advice on research, class and job hunting. These collaborations turn out to be fun and productive, some of which lead to publications at top conferences such as USENIX Security, NDSS, WWW and CSCW.

In the future, I will continue to reach out to perspective students including undergraduates and high school students. I believe that exposing students early to academic research not only broadens their visions, but also helps them to make more informed decisions in their careers. I myself started as an undergraduate research assistant, and this experience has led to my decisions to attend graduate school and later to become a professor. Given the opportunity, I want to be the kind of professor who reaches out to students and helps guide them, the same way my advisors have been doing for me.

***Courses.*** I feel qualified to teach Networking, Security and Data Mining courses at both undergraduate and gradate level. I am also excited about developing graduate-level seminars or topical courses on Social Computing and Data-driven Security. Such seminars will examine the state-of-the-art in the field, and try to ask questions about the broader applications and future directions.