TEACHING STATEMENT

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To me teaching is an integral part of academic life. Not only it helps clarify and organize ideas through introspection but it also gives the satisfaction of sharing knowledge with others. I enjoy teaching. In fact, the willingness of a teacher to share knowledge with students without expecting anything in return is what attracted me towards the academia. It seems to me that the step by step explanation of an idea to a student and the thought process inside the brain for solving a problem are the two sides of the same coin.

One important part of my experience as a graduate student at University of California, Berkeley, is the opportunity to serve as a *Graduate Student Instructor* (GSI) for several undergraduate and graduate courses on statistics and probability theory. My involvement with the courses ranges from holding weekly discussion sessions, holding office hours, preparing solutions to homeworks and grading them to the occasional lectures in the instructors absence. Through this experiences I have developed my own teaching style and have gradually grown as a teacher over the years.

Teaching undergraduate courses. My first ever formal experience with teaching was in Summer 2007 as a GSI for Stat 20. This was a lower division undergraduate course on basic concepts of statistics and probability theory. We avoided symbolic manipulations as much as possible and worked through various interesting examples. It was simply a challenge to work with a diverse group of students with the aim of motivating and helping them with their study of basic probability theory. I developed the style of explaining ideas, in a less technical fashion, so that it is easier for the students to understand and appreciate.

In the next summer I worked as a GSI for Stat 2 which is a lower division undergraduate course in introductory statistics. The students were from very different backgrounds and interests. I took a very simple style of teaching in discussion sessions. Instead of going through abstract concepts, I started with concrete problems that paved the way for the mathematical results. The full classroom and comments from the students encouraged me to implement this style later in a graduate course.

Teaching graduate courses. Teaching a graduate course is also challenging. Not only because the concepts are difficult, but also one needs to have a strong grasp of the subject, good technical skills, and the ability to communicate clearly.

In Spring 2008, I worked as GSI for Stat 205B, the second graduate course in measure theoretic probability. I think it is relatively easier for a good teacher to motivate the students in a graduate course than an undergraduate course. However, it is also a challenging exercise to make them connect the abstract concepts through a common mathematical language. Moreover, the solutions helped me develop my reasoning and problem-solving capabilities as in most situations I had to prepare the solutions on my own. Though initially some of the students complained about rigorously checking the details, later it was them who were expecting it.

I was later assigned as GSI for Stat 204 in Fall 2008. This was a interdisciplinary course in Probability for graduate students in the Statistics, Biostatistics, Computer Science, Electrical Engineering, Business and Economics Departments. I divided the two hour discussion section into one hour of explaining and applying concepts from the previous class to different problems and the rest for problems from their own research areas. The success of this style was evident when I got a median score of 6 out of 7 (in a class of 23 students) in the end of the semester evaluation. I received several good remarks from many students, like "the best GSI I ever had", that strengthened my belief as a teacher.

I believe I have the knowledge and interest to efficiently teach any undergraduate course in probability and statistics. For graduate level courses I would be interested in point processes, measure theoretic probability, stochastic calculus, large deviations, Stein's method, concentration inequalities and Gaussian processes.

Finally I believe that the spread of knowledge leads to a better understanding of a discipline and paves way for further knowledge and teaching helps giving new meaning to old ideas from new perspective.