

Teaching Statement

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Not only do I like teaching, I feel enthused by it. And so, starting from my undergraduate days, teaching has been a big part of my academic endeavor. During my stint at Michigan as a Ph.D. student, I have served as the GSI (graduate student instructor) for 2 undergraduate and 3 graduate classes.

Teaching or explaining graduate course material is challenging, because the concepts are difficult. One needs to have a strong grasp of the subject, good technical skills, and the ability to communicate clearly. Teaching an introductory statistics course to a class of undergraduates is also challenging, though in a different way. One has to find ways to explain ideas, in a less technical fashion, so that it is easier for the students to understand and appreciate. I think I have experience with both scenarios.

I have been the grader for three graduate level courses: Time series Analysis, an advanced course in Probability, and an advanced course in Statistical Inference. The work involved discussing problems in office hours and review sessions and grading assignments. The solutions helped me develop my reasoning and problem-solving capabilities as in most situations I had to prepare the solutions on my own. I was a student mentor for a Ph.D. student all through his first year, preparing him for the qualifying exams. I have had numerous interactions with junior graduate students explaining some concepts or helping them in solving problems. In this respect, I must say that I have been fortunate, as many junior graduate students have found me useful and freely approached me for help. Being the organizer of student seminars for two years, I have had to make regular presentations on important statistical ideas.

I have also been a GSI for an introductory course in statistics for 2 semesters. The course had about 1300 students registered in each term, with marked diversity in their backgrounds. I have occasionally filled in for regular faculty and delivered lectures for an introductory course in Theoretical Statistics. As an undergraduate student, I tutored numerous students assisting them with Calculus, Linear Algebra, Statistics, and Probability. Explaining basic mathematical and statistical notions to

these students needed finding appropriate examples, appealing visual illustrations, non-technical language and an ability to make them feel interested and involved.

In the future, I would be very interested in teaching classes in statistical inference and probability. Among undergraduate courses I would love to teach the following:

- Introduction to Statistics and Data Analysis
- Introduction to Theoretical Statistics
- Introduction to Probability
- Introduction to Statistical Computing

In fact, I believe that I have the knowledge and interest to efficiently teach any undergraduate course in Statistics. For the graduate level, my preference would be in teaching more theoretical topics, including

- Large sample theory and advanced Statistical Inference
- Nonparametric methods
- Measure Theoretic Probability
- Resampling techniques
- Special topic courses like Weak convergence, Empirical processes, Nonparametric function estimation, and shape constrained function estimation.

Lastly, I can honestly say that I have enjoyed my teaching experience and I am a firm believer of its importance in the academic environment. Teaching helps clarify and define ideas of the teacher herself and makes incessant demands on her ability to communicate finer shades of meaning. This is particularly important in a field like Statistics where much of our work is interdisciplinary and depends on communication with researchers in other fields.