

Teaching Statement of Yisong Yue

I have accumulated substantial teaching and mentoring experience during my time at Cornell. For two semesters, I taught a weekly section on introduction to programming, providing me with ample opportunities to both lecture and engage students in discussion. I have advised fifteen group projects in artificial intelligence, and also co-advised multiple undergraduate research projects with Professor Thorsten Joachims. I was the lead teaching assistant for Cornell's inaugural undergraduate course on social and information networks taught by Professors Jon Kleinberg and David Easley, where my contributions included creating new course material as well as managing the course blog.¹ I also have experience teaching tutorials, including at major conferences such as SIGIR.

First and foremost, I believe that good teachers instill in students both a lasting interest in the subject matter, as well as the confidence to explore independently. In the classroom setting, the primary requirement is to properly structure course materials to minimize unnecessary confusion and tangential distractions, while also engaging students with interesting opportunities and responsibilities. One particularly important task is identifying illuminating examples for building concrete references to foundational principles and abstract concepts. In addition, the process of distilling, structuring and identifying good examples can also provide the instructor with new insights. My diverse teaching appointments have exposed me to a variety of instructing styles, making me well prepared to tackle my own course regardless of size, format, or education level.

The above tenets also apply, in many ways doubly so, when advising graduate students. Although far less structured than instructing courses, advising has a similar goal to guide students towards becoming productive and independent researchers. As such, I see my advising role as a mentor who helps students define goals, identify interesting and feasible research questions, understand the broader context, and avoid pitfalls. In my experience, students are generally most productive and happy when they are inspired and motivated to pursue their own ideas. In the long run, such a advisor/advisee relationship will yield far greater mutual benefit.

Furthermore, I believe that both undergraduate and graduate curricula should feature strong interdisciplinary components. Virtually all scientific and engineering fields are becoming more involved with information processing and computing, thus positioning machine learning and computer science as vital enabling disciplines. Having an interdisciplinary teaching focus offers two main benefits. First, interdisciplinary exposure creates opportunities for students to actively pursue rewarding and high impact careers beyond traditional software engineering. Second, this provides a framework to address the computing education needs of students in non-computing majors.

With respect to subject material, I am comfortable teaching introductory programming, undergraduate algorithms, undergraduate and graduate machine learning, undergraduate and graduate information retrieval, and advanced topics related to my research interests. One example advanced topic is interactive machine learning with humans in the loop.

¹<http://expertvoices.nsd1.org/cornell-info204/>