

## DANIEL LOWD

## TEACHING STATEMENT

My desire to teach stems from a pretty basic drive: I'm excited about computer science, and I love sharing this excitement by helping people learn. (My friends and family will readily attest to this, having learned more about everything from recursion to how spam filters work than they ever wanted to know.) My experiences have prepared me to teach graduate and undergraduate courses, advise students, and contribute to other parts of the educational process. However, in all that I have learned about teaching, the most important lesson has been that there is always more to learn. I look forward, not only to sharing my passion with students, but to further developing my skills and techniques as a teacher.

For my undergraduate studies, I attended a small college that emphasized quality in teaching. I was able to learn a number of techniques from watching the professors there: one math teacher would start every class with a "fun fact"; a physics teacher used near-light-speed rhinoceroses to explain relativity; a computer science teacher worked his students' names into examples to help them stay awake. But for the most part, the professors just gave clear lectures with appropriate examples and in-class questions, provided good supporting materials and problem sets, and were available for questions outside of class. In my senior year, I took an advanced algorithm class which had, as one component, teaching the class for one day about a particular algorithm or data structure. This was my first real introduction to teaching. It was harder than it looked: knowing the material and a few classroom techniques was only the beginning. The real trick seemed to be knowing which techniques to apply when and which explanations would work best. There is no shortcut or gimmick for good communication, just patience, practice, and if you're lucky, talent.

As a graduate student, I have had the opportunity to hone my teaching skills in many different contexts. As a teaching assistant for the University of Washington graduate AI course (CSE 573), I held office hours, designed and graded assignments, and gave several lectures. I gave guest lectures in a Carnegie Mellon class on Markov logic (10-803) and a different section of CSE 573 at UW. I also had the pleasure of tutoring undergraduates for five terms, and I am currently finishing a book on Markov logic (my research area) that has already been used as a course text at Carnegie Mellon and the University of Wisconsin-Madison. These experiences have strengthened my ability to explain concepts in a variety of contexts, from informal, interactive discussions to formal, written prose. I believe that using a variety of formats and styles in teaching is important for teaching students with varied perspectives and learning styles. Furthermore, some concepts simply call for different teaching methods than others. I am open to using whichever approaches work and adapting to the needs of each class. In order to determine what works best, I have sought out student feedback, especially criticism. Continually improving my teaching skills is very important to me; good teaching is an ongoing process.

My perspective on advising has been shaped by my experiences with my own advisor as well as three other academic mentors with whom I have collaborated and authored papers. As I see it, the role of an advisor is not to drive the research, but to provide direction. The level of direction will naturally depend on the student, and should vary through the course of study. For this direction to be well-received, the advisor must respect the student's development into a researcher in her own right.

I would be interested in teaching courses on artificial intelligence and machine learning, both at the graduate and undergraduate level. I would also be interested in teaching a more advanced course on statistical relational learning or Markov logic, based in part on the book I am coauthoring. I am open to teaching other courses, such as introductory programming or data structures. The most basic concepts are often the most fundamental and important, which makes teaching them exciting and challenging.