Teaching Statement

Over the years, I have come to realize that teaching is an integral part of research. As researchers, the first teaching challenge we face is writing comprehensible discourses for complex research topics. This requires skill and patience.

A good researcher has the potential to encourage and influence young minds. The focus of computer science courses is often only fixated on a set of deliverables. In many cases then, the learning process becomes geared towards producing an acceptable “final project” or clearing a “final examination”. Indeed, the outcome of any course should be something tangible. But this outcome should be organically derived through interaction and regular assessments.

Since young students are impressionable, a teacher’s primary role is to inspire and encourage so that we end up with innovators rather than imitators. While teaching an introductory course during my grad years, I designed lectures outside the curriculum that explored rather advanced concepts in very simple terms. This allowed the students to understand how computer science is being applied to everyday life. As a teacher, I found myself challenged to explain probabilistic page ranking and digital signatures to a group of freshmen but was pleasantly surprised to see them engage enthusiastically. I even had queries that implied insights beyond what I had taught or expected them to understand. I believe that undergraduate courses should be designed to allow more interaction and maybe focus less on assessment. Interactive quizzes can help in self-assessment but the goal should be to teach important concepts rather than promoting a culture of getting good grades.

On the other hand, for senior undergraduate courses, teaching may benefit from a focus geared towards preparing young professionals for interacting with the real asphalt of the world. The ability to produce polished clear deliverables but also a well-grounded work ethic are both essential. Further, the course design should allow exploration beyond the course material. This often ends up impacting senior undergraduates’ career decisions.

I have mentored several graduate students and stayed in touch even after they graduated. Research during graduate studies encourages some students to pursue academia but also helps others contribute to and shape industry and ultimately society in more meaningful ways.

I will be happy to teach systems and network security, applied cryptography, and networking. I can also teach algorithms and data structures, computer architecture, databases, and software engineering. Overall I find the process of teaching enriching and I see my mission as whole-heartedly enabling students to become the best they can be and the top minds of the generations to come.

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