Statement of Teaching Interests
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Teaching Philosophy

Good teachers offer an environment that is both challenging and supportive. I have been fortunate to have some wonderful teachers and mentors in my academic life. Their lucid and patient style of teaching has helped me understand seemingly complex concepts in various disciplines and has deeply influenced my teaching philosophy.

In my interactions with my teachers, I have observed a similar four-stage process that facilitates learning. In the first stage, they developed interest in complex topics by motivating important problems and their implications. In the second stage, they asked students to break down complex problems into several simple constituent sub-problems and prepare a tool-kit of ideas and principles to tackle them. In the third stage, the students used this tool-kit to solve the problem. In the last stage, i.e., at the end of the problem solving process, the teachers engendered discussions motivating the students to build upon the derived result. An important lesson, which I realized only later, was that the preparation and discussion stages were far more important than the problem solving stage itself. By the end of the preparation stage, students have developed a clear vision of what techniques are required to solve the problem, and the discussion stage enhances students’ tool-kits with another idea or principle to be used later.

I firmly believe that an effective university education is fundamental to the development of students and future researchers. A teacher must help the students to develop clarity of thought, inculcate the habit of questioning the unknown and act as a catalyst for furthering the boundaries of knowledge. In my interactions with my students, I will emulate the teaching discipline of my esteemed teachers with emphasis on:

- **Discussions:** I consider that efficient learning by students must consist of a combination of formal lecture periods and smaller discussion sections. Computer Science is a broad and rapidly evolving subject, thus in my discussions, I will strive to cover all perspectives to showcase the relevancy of the topic being taught. A simulating discussion will arm the students with a broad perspective that will make them confident and motivated to contribute to the subject.

- **Balance between theory and practice:** Unlike other science disciplines, Computer Science has a unique advantage to let students swiftly experiment with the principles they have learnt in class. It is essential to let the students understand the differences between theoretical ideas and problems in their real-world implementation. One of my research mottos, which has served me well, is to “Just do it”. Thus, I hope to internalize both the theoretical and practical facets of the topic through challenging assignments and research projects.

Effective and engaging teaching involves considerable amounts of preparation. As a student myself, I have observed that the amount of time a teacher puts into preparation directly translates to how much the students learn. Preparation for a lecture is two-fold and involves both the subject matter as well as its presentation. It is therefore important to pay close attention to both the diction and the body language when in front of the students.

Future Agenda

I enjoy teaching and have tried to utilize any given opportunity to teach. I have taught computer programming to first year undergraduate students and have also given a few guest lectures as part of my undergraduate and graduate coursework. My education at both undergraduate and graduate levels and my research interests have kept me abreast with advances in Computer Security, Programming Languages and Computer Networks.

Given an opportunity, I would like to start a graduate level course on web browser security and privacy. The web browser is a unique software system that leverages contributions from a wide number of disciplines in Computer Science, like Computer Security, Programming Languages, Operating Systems, etc. The aim of the course would be to understand these inter-disciplinary techniques built over the years to secure the web eco-system and analyze the browser spectrum for the prospect of future research in the area. I plan to conduct the course as a seminar course involving readings of several impactful papers in the field. At the undergraduate level, I am interested in offering core courses, such as Operating Systems, Computer Networking, Internet technology, etc., but inspired by the web browser as a platform to motivate concepts in these courses. Further, my diverse background qualifies me to fill instructional needs for other courses as well.

I look forward to the opportunity to teach and mentor students at a leading university.