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Teaching Statement

My parents and educators have been great contributors to my life and formation, I have learned from them and now I appreciate the importance of good mentoring and teaching. My father is a University professor and my mother, a former elementary school teacher, taught me how a positive attitude can make a difference in learning.

I have experienced two types of teaching roles as a Graduate Teaching Assistant, and Technical Lecturer. As a Teaching Assistant, I was lucky to be part of many different teaching styles and mentors. I have assisted and taught traditional classrooms as well as an innovative graduate class that included a “killer app” competition sponsored by Motorola. Teaching undergraduate and graduate level classes exposes many challengers and faculty must be creative to keep your audience motivated, a competition allowed great learning, cover extensive material, and great exposure of students to potential employers. As a Lecturer, on the other hand, I was able to teach very specific topics in a couple of hours to very specific audiences, mostly engineers and professionals, using internet lectures, videoconferencing, and standard classroom experiences. Both experiences are different however those two audiences have one goal, learning, in both cases a well structured lecture is fundamental, audiovisual means are then a great tool for learning. In my teachings I keep all teams motivated and even though a class might spend 3-4 hours a week in a classroom, students may spend additional days completing assignments, learning and enjoying it.

My teaching philosophy focuses on teaching the basics first, and always start with a simple problem that at initially may look puzzling and complicated, but once theory comes in the pictures, that initial puzzle will be solved and then we can move on to even harder puzzle. A simple example is an RC circuit; will it be easier for you to think about a timer? How can we pick an RC value to create a voltage that will trigger certain event?, How you can calculate it, the need for a model/equation. Or, another example, how would you send a message to a remote destination, if you need to get a message back? Will it be easier to stamp that message with your source information, as well with the destination information?

At a graduate-level, things are more open and exciting; could we replace that RC element with something cheaper or more efficient? Can we create a peer-2-peer protocol where messages don't need to be stamped?

Additionally, a graduate level class must include a colloquium and an open discussion of academic papers. Students should be able to tear down research and find loopholes that might opens new opportunities for publications, in some cases privileged undergraduate students may also participate as well.

I enjoy teaching and I think that a lecture is not limited to the class room environment; mentoring and guidance outside the classroom are also important components for learning. Technology permits this type of follow ups, email, web, chat rooms, there are many tools available. However, office hours and personal contact are irreplaceable, as a teacher you can then understand what

exactly needs to be reinforced and improved in class, you can then glance what's missing from your own lecture. Things that might be obvious to a group of students it's not for the next.

Research labs are also a place for learning, in my personal philosophy, practical experiences are the key for engineering teaching. In this arena, I had the pleasure to mentor two students, Subodh Shah and Madhav Chinta (in their MS thesis), provide feedback, and discuss research papers. It was very rewarding to see how good mentorship could fructify in publications.

It's natural to expect that in every class room, you will find a set of exceptional individuals, as well as some others who need more time and patience to learn. Even though, it's sometimes hard to help everybody (especially in a big school), those who show interest and desire to learn deserve to an extra-level of attention, and those who have difficulties should receive extra encouragement to learn. It's so rewarding to meet students who you saw had a hard time completing their assignments, and listen to them how you were positive influence in their lives. I truly believe that a student, good or bad, needs a little bit of motivation to increase their desire of learning.