

Xinyu Tang

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Statement of Teaching Interests

I believe teaching and mentoring are synergistic to my academic research. Interaction with students not only enhances my understanding of the teaching material, but helps me improve my communication and to think creatively and critically on the subject.

Teaching Philosophy. I grew up in a teaching family, my father, my mother, my brother and his wife are or were teachers. From their teaching experiences, I have developed my initial teaching philosophy and have practiced and improved it during my own experience of teaching and learning. From the perspective of both giving and receiving ends, I think that the best way to understand what you learn is to practice and teach it to others. As an important principle in my teaching philosophy, I believe that practice generates students' enthusiasm in the subject, and it may consolidate their understanding of the subject. As another important component of my teaching philosophy, I believe that teaching and mentoring not only helps the students, but helps me to enhance and consolidate my understanding of the material. Because of this, I have been tutoring my peers since elementary school, which has been very effective to me. In my teaching I would encourage students to practice presentation skills and collaborative learning whenever possible. In my experience, I found that when a student takes the responsibility to present a section, he or she would pay more attention to that and gain a better understanding of the subject.

Teaching Experience. I also practiced my teaching philosophy in my experience of teaching. In my experience in computer science, I found it more helpful for students to practice their knowledge with some real applications. As a senior at UESTC, I worked as a mentor for 30 freshmen from 1997-1998. Most students had not seen a computer previously and had difficulty with some computer science concepts. I gave them a series of 5-week introductory lectures and also tutored them on some basic computer operations and programming. This worked impressively well. Even today some students still appreciate those lectures and said that such lectures show them how theory is associated with practice of real life applications and made those previously dull concepts alive and interesting. Later, as a lab instructor in Zhejiang University, I taught new lab members computer graphics technologies. I noticed that students can master that knowledge much better if they can practice the concepts through programming.

Student Research Mentoring. I have also developed my teaching philosophy from my mentoring experiences. Teaching and mentoring is far beyond merely delivering some knowledge. It can be a more active and creative process of exploring and learning. Since I went to graduate school, I've had many opportunities to mentor students on undergraduate research projects. Even though they are not as knowledgeable as graduate students, they can often think more openly and creatively. If mentored properly, they may enthusiastically participate and significantly contribute to research. When talking about some challenging problems, I would normally start with an open discussion before explaining the solutions. The participation of students not only helped the students to appreciate the elegance of the best known solution but to develop their problem solving ability and motivated them to do further research. I have mentored 6 undergraduate students since I came to graduate school. Every mentoring experience resulted with a nice thesis or a paper submission to a prestigious conference. Four students went on to first-tier graduate schools (three went to Zhejiang University, one went to UC Berkeley). The other two students are still undergrads and are considering graduate school. In the future, I would try to create an open atmosphere for teaching and mentoring. I would encourage my students to think more actively and openly.

Teaching Interests. I have a wide range of teaching interests. I can teach any undergraduate class, any core graduate class and specialty graduate courses in my areas of expertise. I look forward to giving back the knowledge I acquired through the years of my study, especially the topics related to computational biology, computer graphics and animation, algorithms, and robotics.