I have always enjoyed teaching. One of my earliest teaching experiences was for an animation club we founded in IIT Kanpur as an undergraduate. Every week we taught various aspects of computer animation using open source tools such as 'Blender'. Our hands-on lectures combined mathematical concepts with working demos to produce animations. This was a huge success, and we held regular competitions to encourage more students to learn computer animation. I was also one of the lead instructors for an eight-week summer course in 'data structures and algorithms' as a senior undergraduate. This is organized and taught by computer science majors, primarily to students in other areas of engineering interested in computer science. The course had twin goals of teaching students the basics of computation, and getting them up to speed on programming using standard libraries in C++. We devised a careful schedule of lectures, homework assignments, and tests for the course, which was attended by several hundred students.

I believe that an effective way to teach is to combine lectures with good assignments that expose the students to something rewarding. Moreover, these assignments should contain some elements of challenge so that it encourages creativity and interest in everyone. Some of the best courses I took as an undergraduate at IIT Kanpur and as a graduate student at UC Berkeley had this property. My teaching philosophies are based on courses taught by professors like Dan Klein, Michael Jordan, Jitendra Malik, Joseph M. Hellerstein, Eric Brewer, and Manindra Agrawal (at IIT Kanpur), who with their clarity of thought and simplicity of presentation have managed to teach difficult concepts.

During graduate school at Berkeley, I was a graduate student instructor (GSI) for 'CS162: Operating Systems and Systems Programming' class. This was a difficult course for students with regular homework assignments that involved implementation of a 'mini' operating system. A lot of concepts were covered in this course. As a result, there were some students who lagged, and I spent considerable amounts of time during my office hours explaining the concepts to them. It was always rewarding when they understood something new. One of the key things I realized while being a GSI for a course that is attended by many undergraduate students is that precise organization is very important. Most students appreciate when the basics are taught well. This creates a challenge on how to make the class interesting for everyone, which is where I think assignments can play a key role.

Given the opportunity, I would love to design and teach an introductory computer vision course that combines aspects of computer graphics, learning, and vision to undergraduates. Computer vision is a vast and diverse area, and I think such a course would attract an audience with a wide range of interests. It also has plenty of potential for research and independent study. At TTI Chicago, I have mentored several graduate students on research projects that have led to publications.

I have also presented material related to my research at several graduate computer vision courses at Berkeley and TTI Chicago. I have taught basics of image representations and classifiers to undergraduates at Berkeley as a guest lecturer for an introductory vision course. More recently, I had the opportunity to teach a few topics in an introductory machine learning course at TTI Nagoya, Japan. This was an interesting experience due to the cultural differences and fluency in English. I had to make heavy use of the white board and non-verbal communication to explain the concepts. In the past, I have organized tutorials covering topics in computer vision and machine learning at leading computer vision conferences. I am quite comfortable presenting computer vision research to a graduate level audience. I would be happy to teach 'special topics' courses in computer vision and machine learning related to my research.