

Teaching Statement

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Teaching and research are complementary to each other. I view teaching as a learning process not only for the students but also for myself. We cannot teach what we do not know. The ability to effectively communicate the gist of an intricate idea in a simple language even to a layperson lies in crystal clear understanding on the part of the speaker. During my graduate studies at CMU, I was fortunate enough to learn the basics of good teaching from several celebrated teachers.

I was a TA for an undergraduate Engineering Graphics course at IIT, and a graduate Computer Vision course at CMU. In addition to designing the class projects, creating new assignments and grading them, I also gave several lectures and held review sessions. Most of the students were interested in further reinforcing the ideas learnt during the classes, as indicated by the long off-line discussions that used to follow each class. I consistently received high reviews from my students.

As to my teaching philosophy, I believe that the main purpose of teaching is thought stimulation. To lay a solid foundation of any course, the emphasis has to be put on problem formulation as much as on problem solving itself. I also believe that motivating any discussion from the first principles is key to making a difference in the understanding of students. In fact, the talks given at a reading group, research conference or a classroom are all nothing but different forms of teaching. The difference is in the background of the audience, and the time available. During my graduate studies, I have given several talks at all the three levels and have learnt how to present a topic at an appropriate level of difficulty.

One important part of the classroom teaching is to keep students involved and motivated even while going through abstract topics. It becomes even more demanding when the classroom consists of students from different backgrounds as for the computer vision class at CMU. As a TA, I learnt that giving a broader picture of the problem along with simple real-world examples can go a long way in keeping even intricate formulations interesting. I always found that motivating a topic from a historical perspective helps immensely in fuelling students' enthusiasm.

My primary teaching interests are towards both introductory as well as advanced level graduate and undergraduate courses in Computer Vision, Image Processing, Machine Learning, Graphical Models, Statistical Pattern Recognition, Stochastic Processes, Artificial Intelligence, Robotics, Numerical Computation, Probability and Statistics and other areas of Applied Mathematics. I have taken the above courses during my undergraduate or graduate studies, and secured 'A' grade in all of them. I have also been using these topics in my research directly or indirectly over past several years. Thus, I believe I can make a significant contribution as a teacher to the above courses by combining abstract theoretical formulations with their practical importance. In addition, I would also like to design new courses that will promote the students to conduct research in the above areas.

In summary, in my academic career, I firmly remain committed to teaching and hope to reinforce my research activities with the teaching activities.