Teaching Statement

Dana Cobzaş

I consider teaching and advising students a great privilege and motivation for an academic career. I believe it is important to guide the students in acquiring a solid knowledge, through both a clear presentation of the theory and practical examples.

Teaching Experience In the winter of 2008, 2009 and 2011 I co-taught two UofA courses: the graduate cmput613 mathematical methods in imaging, and the mixed under-graduate and graduate cmput499/615 3D computer vision. I designed and created lecture content for shape and reflectance estimation from images as well as techniques for multi-view shape reconstruction. I taught the lectures for 5 of the 13 week semester, and assisted with the labs and projects during the whole course. As we did not have a designated textbook for this course, I extracted relevant related information from scientific state of the art papers in the area.

During my PhD years at UofA, I was teaching assistant for a data structures course, an image processing course and a multimedia course. As a senior TA in the last few years of my PhD, I got increased responsibilities such as designing assignments and exam questions and supervising the other TAs. I also taught 5 lectures as a substitute for the professor in several occasions over three years.

In the spring of 2014, I had the great opportunity to be the co-instructor of a medical image analysis seminar at Technical University Munich (with Prof. B. Menze). The seminar involved guiding students in presenting and implementing state of the art methods in medical imaging.

Beside teaching courses, I have organized several weekly research reading seminars in medical imaging and computer vision. For these seminars, I have selected recent state of the art papers to cover various key topics in the above mentioned fields.

For my formal teaching education, I have participated in the University Teaching Program (UTS) at UofA, a program consisting of 20 formal pedagogy lectures combined with supervised in-class practicum in regular UofA courses.

Advising During my postdoctoral studies and as an Adjust Assistant Professor in the Computer Science Department I have co-supervised and graduated 2 PhD and 3 MSc students working in computer vision and medical image processing. Two of them (MSc Parisa Mosayebi and PhD Neil Birkbeck) received the CS department thesis award. For Parisa, I had worked though the tumour growth formulation, and she did the experimental analysis and stability study of the numerical method. For Neil, I guided him in choosing his PhD topic (dynamic scene reconstruction from video) and then provide help with literature, ideas and publication writing. I regard students as my colleagues. During my stay in France and Germany I learned how to appreciate the spirit of a team and I am trying to build the same atmosphere in our lab. I believe that working in a team is more efficient and rewarding than building individual projects.

Teaching Interests My background in computer science and mathematics from University Babes-Bolyai in Romania along with my graduate research from Canada in medical image analysis, computer vision, robotics and computer graphics gives me the ability of teaching a broad range of courses. I feel confident in teaching most of the basic curriculum computing courses and applied mathematics (numerical methods, optimization). I am particularly interested in courses in medical image analysis, numerical methods and computer vision. I would like to design an interdisciplinary course on novel and basic methods in medical image analysis, that would help graduate students from several departments understand and conduct research in this area.