Teaching Statement

Piyush Harsh
piyush.harsh@gmail.com
Google Voice: +1 (352) 327-8786

Computer and Information Science and Engineering
University of Florida
Gainesville, FL 32611

Being among young, intelligent, and curious people and ability to perform independent research and prepare the next generation for exciting engineering and research opportunities is the primary reason I want to be in academia. My experiences as discussion sessions leader, teaching assistant, and project designer for several undergraduate and graduate computer science courses, both core and electives, at University of Florida have prepared me well for this task.

Teaching Background & Experience

I have been teaching assistant for every regular semester (Fall and Spring) from Fall 2003 until Spring 2010. I have worked in all capacity, as a support TA initially for 'Problem Solving using Computer Softwares' for non-CS majors, and then as discussion session leader for 'Discrete Mathematics' and 'Computer Organization', all being undergraduate courses. These gave me experience of handling and interacting with very bright undergraduate students. Then I transitioned to TA positions in graduate core as well as non core computer science courses.

I have held positions as head TA for graduate Computer Networks, Distributed Systems, Computer and Network Security classes. I helped design course syllabuses and project descriptions for several of these courses. I have had independent jurisdiction over project creation in these courses. I was able to design projects that covered the depth and breadth of the subject and further were challenging for even the most savvy of my students. I have used relevance, practicality and my knowledge of the state of the art in relevant area as a guideline for designing programming projects and term papers guidelines.

I believe my experiences have prepared me well to be a successful instructor for 'Discrete Maths', 'Distributed Systems', 'Computer Networks', and 'Computer Network Security' courses both at graduate as well as undergraduate levels.

Teaching Philosophy

Unlike other engineering fields where you have the benefit of tangibles, you create something that you can see, touch, etc. the field of Computer Engineering is different in this aspect. You create something beautiful, yet you can not touch it. A practitioner of computer science methods must have the ability to visualize what goes on underneath the software layer, the ability to visualize bits and data packets traveling from end systems via a series of interconnected data pipes, the complex protocol level interactions between components, is central in appreciating the beauty and complexity of the wonderful field of computer science.

My philosophy is to incorporate vivid imagination along with the understanding of the underlying fundamentals in my teaching methodology. Nobody is perfect. We are bound to make errors. I always encourage my students to take a chance, make mistakes but learn from those mistakes. No one method of practicing software engineering and research is perfect, one must always keep on adding skill sets to ones kit. My teaching philosophy would be to incorporate this belief system into my students.

Teaching Methodology

I believe in interactive style of teaching. In my experience, a traditional lecture hall style teaching makes some students disinterested in the learning process. I believe in mixing lectures with seminars where students

do presentations to the class. In my experiences at University of Florida, I found this mixed style of teaching as most effective in engaging most of the students in the learning process. Providing individual projects along with team projects in the same semester allows student to develop necessary skill-sets to excel individually yet imparts the experience of creating something cooperatively.

I do not believe in evaluation based on big term examinations. I strongly believe in measuring a student's progress continually over the course of the semester using several mini-tests, awarding points for constructive class participation, projects, and term papers that gives a student to explore the field of study beyond text books.

Course Development

Computer Science and Engineering is still a relatively new field. Researchers worldwide are adding new knowledge to this field fairly rapidly. Most of the textbooks can not keep up with this knowledge creation pace. It is very important to keep the course syllabus and materials in sync with the present. I will incorporate my own research findings and findings of my peers into the relevant courses that I may teach. I would also love to offer special topic courses to students so that they get a taste of state of the art research being done in the community.