TEACHING STATEMENT

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"Give a man a fish; you have fed him for today. Teach a man to fish; and you have fed him for a lifetime" – Author unknown

WHAT TEACHING MEANS TO ME

Teaching is sharing the gift of knowledge, inspiring young men and women and making them eager to learn and discover. Teaching and research are two complementary aspects of the humankind's endless pursuit of knowledge and an academic environment provides an opportunity to integrate them in a way not possible in any other setting. My goal as a teacher is to foster critical thinking, facilitate the acquisition of life-long learning skills, and prepare students to be competitive in today's society.

MY EXPERIENCE

My first official teaching experience dates back to 2002 when, just a few months after receiving my M.S. Degree in Computer Science and Engineering, I taught Computer Networks classes in a training program for working professionals. The first impact with a classroom setting was definitely inspiring, and teaching Computer Science topics to such a diverse audience opened my mind to a different way of presenting the subject.

However, the origins of my combined passion for discovery and knowledge sharing can be traced back to my early high school years, when, soon after acquiring my first personal computer, I found myself deeply engaged in computer programming. I was extremely eager to find algorithmic solutions to all sorts of problems, and, without any Computer Science background, I managed to write a number of interesting applications. I immediately felt a strong desire to share with others what I was able to learn and achieve, and I was under the impression that not sharing my "discoveries" with others would have made my "research" meaningless. I then started to present what I learned to friends and classmates in a systematic way, and finally got some of them actively involved into programming.

As a PhD student at the University of Naples, I assisted with courses on "Basics of Computer Science", "Database Systems", "Computer Design" and "Information Systems". My responsibilities included grading assignments and exams, teaching classes on selected topics, running lab sessions, and advising students. I held regular office hours, and advised several master students on their theses. During my years as a teaching assistant, I had the opportunity to interact with a large number of students. This invaluable experience showed me that each student learns differently, and each student has a different goal when studying Computer Science. Some students learn best by doing, through hands-on experience, others by attending lectures, completing assignments, or asking face-to-face questions to the instructor.

Since I joined the University of Maryland as a Faculty Research Assistant in 2006, I had the opportunity to develop and teach two new courses in the Honors Program, which enrolls the most talented students from across disciplines. In Spring 2009, I thought HONR229C, "Information Extraction and Integration". The course offered a survey of the

issues faced by researchers in Information Extraction and Integration, current solutions, current and future applications. In Fall 2010, I thought HONR299B, "Internet Technologies in the Information Era". The course offered a survey of the technologies and issues underlying the use of the Internet for communication, research, and dissemination of information, and covered topics including computer and network security, encryption, and cyber crime.

After joining George Mason University in 2011, I began developing new courses in cyber security. The first course I developed was AIT 670, "Best Practices Managing Security and Privacy for Cloud Computing", which was offered for the first time in Spring 2012 as a special topics course, and officially entered the catalog in Fall 2012. The course offers a survey of security and privacy issues in Cloud Computing, along with an overview of current best practices and available technologies. The course examines Cloud Computing definitions and models, analyzes the threat model and security issues related to data and computation outsourcing, and explores practical applications of secure Cloud Computing. The course was well received by students, and enrollment has since then risen consistently, reaching a total of 29 students in Fall 2013, the highest for a concentration course in the entire MS AIT program. I also developed AIT 701, "Cyber Security: Emerging Threats and Countermeasures", which was launched in Fall 2012. The course covers security issues and current best practices in several applicative domains, ranging from the enterprise to the military. The course discusses emerging security threats and available countermeasures with respect to the most recent network and computing technologies, including wireless networks, computer-controlled physical systems, and social networks.

I have always been passionate about teaching, and my students truly appreciate my commitment to deliver an excellent learning experience, as confirmed by my teaching evaluations that – over my years at Mason – have been consistently higher than the Department, School, and University averages. However, teaching evaluations are not the only metrics I use to obtain feedback from the students and assess my success as a teacher. I always encourage students to give me feedback throughout the semester, and I often incorporate their suggestions to enhance and refine my courses semester after semester. Additionally, I always like to hear what impact my classes are having on their professional development, and whether the knowledge they acquired in class opened new doors for them, such as professional certifications or better positions.

TEACHING PHILOSOPHY

My goal as a teacher is to prepare students to be thinkers. Today's fast-paced society puts students at a high risk of becoming good test-takers rather than thinkers. The principles that guide my teaching are respect and clarity, and the tools I employ to achieve my goals are an interactive classroom environment and hands-on experience.

First, I strongly believe that any educational institution in the world has the primary responsibility of contributing to train the citizens of tomorrow, and instill civic values. Respect is one of the fundamental values that a teacher must pass on to students, and to do so, he or she must set the example by showing respect for his or her students. I always treat my student with respect and dignity, and I expect them to treat their classmates and their instructor in the same way. I am attentive to their needs, and prone to accept their suggestions or their critics.

Second, teachers must clearly state the goals of the course in advance and convey its contents with clarity, and try to look at the subject from the perspective of a student who is approaching a new field for the first time. Students are often intimidated by the amount of new or complex materials presented in a course. Although I always encourage students to step out of their "comfort zone", suddenly forcing them to do so may have the effect to drive some students away from the subject. Trying to convey too much information may also be detrimental to the students.

Good principles, however, are not sufficient to deliver a compelling learning experience, if they are not implemented through adequate tools. I firmly believe that keeping students engaged through an interactive classroom experience enhances their learning process. Consequently, I set an expectation that I will be asking questions, and initiating discussions that require active participation, and I explicitly allocate time for class discussions. Of course, active participation may be difficult to achieve, because not all students may be ready to participate actively in the classroom. My approach is to stimulate their interest by showing them how the contents of the course apply to real problems, and illustrating difficult or highly theoretical concepts through compelling examples or live demonstrations.

As part of my effort to keep students actively involved, I also require them to present their class projects in front of the class, at the end of the course. Most students are nervous when asked to talk in front of an audience, especially the first few times, so it is important to get them used to the idea gradually. On the very first day, I ask students to introduce themselves to their classmates and tell something about their background. This keeps students in their seat yet they have to say something to the class.

Finally, providing students with hands-on experience is fundamental to the success of their learning experience. To this end, I try to incorporate as many live demonstrations as possible in my lectures, and always invite students to practice with the tools I show in class, both in class or from the comfort of their homes.