Teaching Statement
Fattaneh Bayatbabolghani

Along with my deep interest in developing and sharing state-of-the-art ideas as a researcher, I strongly believe transferring that knowledge by spreading the related information and skills through teaching is an essential element for the future of innovation itself. I also believe there is no solid distinction between research and teaching since an ideal teacher should always be familiar with the most recent theoretical concepts, technologies, and solutions, as well as gain new insights learning from the next generation of researchers. In my opinion, academia can uniquely be characterized by a place that combines research and teaching in a way that is not possible in any other environments. The simultaneous insights gained from the combination of research and teaching has always been close to my heart. Below, I explain in detail my teaching philosophy, experience, and interests.

Teaching philosophy: My teaching methodology is not merely about instructing theoretical concepts in computer science, but rather connecting theory with practice. I believe, full understating of a concept is achieved when it is combined with exercises and practical projects. This approach helps the students to focus on the practical task, and then propose well-informed solutions after fully comprehending all related concepts. This method has an emphasis on developing finely-tuned solution strategies and, as a result, the problem-solving skills essential for being successful computer scientists.

Furthermore, I prefer to encourage students to study and complete projects in teams, the benefits of which reach far beyond the classroom. Specifically, this appreciation for diversity in reaching a solution supports young professionals that will most likely be interacting with individuals from several disciplines as they face challenges in professional technology settings. As benefits of teamwork, students will uplift their own creativity, and build on the abilities of their teammates. In addition, in advanced courses, I prefer to have directed discussions in the class in order to motivate early engagement, critical thinking, and a smoother learning curve.

Last but not the least, I believe a good teacher should be vibrant, enthusiastic, and available to answer questions and always welcome open discussions. Moreover, I am a strong proponent of new and effective means of education, those include but are not limited to computer-based technologies and multimedia demonstrations tailored to the specifics of individual projects and goals.
**Evaluation strategy:** In order to get a sense of students’ perception and progress throughout a given semester, I prefer to give multiple quizzes and assign several lab-based and theory-based homework assignments. I favor this strategy over having a thorough final exam and a comprehensive final project mainly due to the fact that it demands consistent performance and incremental progression during the semester. In advanced graduate courses, writing a research paper and having a take-home final exam can be more appropriate given the exploratory nature of advanced subjects.

**Teaching experience:** During my senior year of undergraduate studies, I had the privilege of serving as a teaching assistant for two core courses in the computer science program: Discrete Mathematics and Data Structures & Algorithms. I was fully responsible for evaluating students’ assignments and projects, answering questions, and teaching complementary concepts based on specific needs. Also, I had the chance to teach a few classes substituting for the instructors. That opportunity taught me how to interact with students to serve their needs and always be open for discussions.

**Teaching interests:** I am interested in teaching core computer science courses such as Data Structures, Discrete Mathematics, Theory of Computation, Algorithms, Programming Languages, and Numerical Methods. Also, I would like to teach graduate level courses in my area of expertise such as Cryptography, Computer & Information Security, and Network Security. I am also interested in teaching specialized research courses that focus on different directions of information security in both theory and practice. Finally, over the course of last few years my research and experience has taught me a lot, and I would feel beyond blessed to share my knowledge with students who are eager to learn about ground-breaking ideas and use those to make the world a better place.