Teaching Statement

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Education is a space to explore, create, and imagine our biggest dreams. Working with students who are curious and eager to investigate the leading edge of computer science, is a privilege and a challenge that I hold in high regard. My academic training in computer science and over ten years of industry experience in electrical engineering and neuroscience research has prepared me for this role where the pursuit of knowledge and student success is the goal. I want to share my passion for research while mentoring and guiding students to harness their strengths and knowledge to make their mark in the world.

Teaching Philosophy

During my experience teaching undergraduate and graduate students topics in mobile computing, I encountered students with diverse learning backgrounds, age, and dispositions. By building respectful relationships with them, I was able to learn their story and what their goals and plans were and how this specific course and knowledge fits into their life's journey.

Keeping up with the latest research of effective teaching methods has been essential to my course design. I will continue to employ learning strategies shown to be effective in the classroom. For example, splitting a typical lecture into two or more 15-minute segments with hands-on mini activities designed to retain knowledge and encourage critical thinking, and collaboration. In workshops offered by the Kaneb Center for teaching and learning I have practiced active learning strategies that have been shown to be effective. These workshops are part of a *Striving for Excellence in Teaching* certificate program. Each is designed to hone teaching skills and strategies effective in the classroom.

My approach to teaching and guiding students while presenting a new topic is to be interactive and provide them the opportunity to be personally involved the discussion and learning process. I feel that students learn through hands-on experience and through in-classroom collaboration with peers. Collaboration can unlock opportunities to learn from each other I believe is key to learning process. Class projects provide a medium for motivation, creativity, and inspiration. Research projects with a significant development component helps undergraduates learn to be resourceful and sometimes work with graduate students. I have supervised and mentored students working on undergraduate research. Motivated students gain valuable experience and often yield valuable research contributions but nothing is more exciting than to see their work pay off when they pursue publication of their results.

Experience In Teaching

Another graduate student and I taught a semester-long course on Mobile Computing: "Mobile Application Projects" for upper-class undergraduate and graduate students in the Department of Computer Science at the University of Notre Dame. What made material challenging but also fun was the interdisciplinary nature of the various topics including iOS and Android operating systems, user-interfaces, graphics, sensors, databases, networks, and more. I was able to arrange, given my industry contacts, a guest lecture from scientist at BlackBerry. Through this, we were able to have our students participate in a BlackBerry campus competition, consisting of building an app for BlackBerry. We were so thrilled and pround when a pair of students from our course went on to win the competition.

In the role of a Teaching Assistant I had the opportunity to teach many classroom lectures on fundamental course concepts. These courses include: operating systems, database system concepts, and Fundamentals of Computing II, a course where we introduce C++ programming.

The Research Experience for Undergraduates (REU) is another teaching opportunity I have had in past summers. This program exposes young undergraduate students to research projects that can lead to publishing in peer-review venues. I have also taught Research Experience for Teachers (RET). This is a unique program geared toward working with highschool classroom teachers. By exposing them to research concepts and improving coding skills, they were able take this back to their highschool students and inspire and expose them to STEM fields.

Teaching Preference

My academic training, various professional work, teaching, guest lectures and conference talks have prepared me to teach courses from a broad range of areas. For undergraduate courses at the junior/senior level, I would like to teach complex network analysis or data mining or a hybrid of these courses as requested. I believe these courses are fundamental to a holistic education in Data Science.

Many of the courses in my computer science training are generally suitable for a wide range of applications and generalize to other fields. For graduate-level courses, I would like to design an interdisciplinary course that integrates materials from computer science, mathematics, and engineering to explore and find solutions to problems in life sciences, neuroscience, and social science. I would like to organize and lead student driven seminars that enable and empowers graduates to learn, share, and discuss research results to help sharpen their communication skills, strengthen their critical thinking, and problem-solving skills.

It would be the ultimate privilege to be able to guide, inspire, and challenge students to explore the big ideas and prepare young minds to tackle the challenges of the future.