Teaching involves motivating and helping students to learn. In order to effectively do this, teacher should keep learning. This continuous learning by the teacher and the student from each other as well as from other sources, is what makes teaching fun and interesting for both teachers and students. In this statement, I will describe how my experience as a student and teaching assistant (TA) helped shape these beliefs. I will conclude with a list of undergraduate and graduate level courses that I look forward to teaching.

Lessons Learned from Past Experience

I was fortunate to have had several teachers across my undergraduate and graduate program who inspired me to explore and learn the subject. The qualities that stood out for me were their enthusiasm and passion to help the students learn as well as their compassion in understanding the problems faced by the students. Their assignments, projects, and questions in the class encouraged students to explore material beyond what was discussed in the class. These are the qualities that I would like to imbibe in my teaching as well.

I have had varied experiences in learning as a student and my biggest take away is that a subject is neither boring nor interesting by itself. Teacher has a major influence on how a subject is perceived by the students. If the teaching is clear with regular assignments and class participation then there is a greater chance of students finding the subject interesting and developing the enthusiasm to further explore the subject. I find the courses that have assignments and are project-driven to be more interesting than the ones without them. For example, in the *Information Retrieval* course, we had an open-ended project where, apart from implementing the basic requirements, we could implement any concepts discussed in the course. This was exciting for me because I could try out the concepts learned in the class on an on-going project. I plan to adopt a similar project-driven approach in the courses that I teach. Teaching using slides and having only one instructor for the course could make the teaching monotonous and boring. Use of media such as videos, interactive web pages, podcasts, lecture clips from other instructors, and blog articles will enhance the content of the course. Guest lectures and having more than one instructor for the course would help in getting different perspectives on the same topic and that in turn makes the course work interesting. Another aspect of course work that could be made more interesting is the final exam. In one of our graduate school courses, we were asked to give an

oral interview instead of a written final exam. We were excited and anxious about giving an interview but in the end we liked the experience. We were asked to solve some problems and rest of the time was spent on discussing concepts and sharing opinions rather than as a typical question/answering session. This can be possible in a graduate level course with a small class size. I am open to trying such alternate assessment techniques.

I have nearly 3 years of experience as a TA across my M.Tech and PhD programs for various courses such as Introduction to programming in Java, Database Management Systems, Data Structures and Algorithms. I worked with students from Computer Science (CS) and non-CS backgrounds as well as with students who are at various stages in their respective degree programs. From my experience, it was clear that teaching assistants play an important role in students' learning and they help the instructor in achieving the course objectives. I, as a TA, would frequently meet the course instructor to discuss the assignments, grading policies, and the performance of the students in assignments/projects. An advantage that teaching assistants have over the course instructor is that they can provide individual attention to the students. It is hard for course instructors to help students individually, especially if the class size is large. From the interaction with students and grading of assignments/projects, teaching assistants can provide valuable feedback to the course instructor.

I had a great experience as a TA and it gave me insights into an effective teaching methodology. I was fortunate to get good evaluations from the students with comments such as "*He explained the concepts well*", "*He was the best TA I ever had*", and "*He did a wonderful job at directing the troubled student to the correct answer*". When I start teaching and become a course instructor, I would emphasize the importance of teaching assistants and we, as a team, will help students to learn and achieve the course objectives. With the help of teaching assistants, I am interested in trying a version of flipped classroom teaching where lectures are immediately followed by groups of students working on homework problems. I was the TA for a course that followed this style of flipped classroom teaching model. We got good feedback from the students because they not only were able to learn from the course instructor and the TA, but also from their peers. Students were able to teach each other and this proved to be effective and exciting for the students.

I have given tutorials at major conferences such as IJCAI 2016, AAAI 2015, and ISWC 2014. Along with the experience of conference and workshop talks, tutorials have given me the confidence to give a talk and interact with an unknown audience in a big room. Along with that, tutorials helped me to gain experience in gathering materials for slides, organizing the content and delivering a lecture for 1.5-2 hours. These factors would help me when I start teaching courses at a university.

Proposed Courses

I would be happy to teach a variety of undergraduate and graduate level courses that are directly and indirectly related to my research interests such as the following.

- Cloud Computing: An advanced undergraduate level course focusing on the fundamentals as well as some of the existing cloud computing platforms.

- Functional Programming: An intermediate undergraduate level course that would expose the students to an alternate programming paradigm.

- Database Management Systems: An intermediate undergraduate level course that would cover the fundamentals of relational database management systems as well as some of the underlying concepts behind NoSQL stores.

- Data Structures & Algorithms: A basic undergraduate level course covering the fundamentals of various data structures and algorithms.

- Semantic Web Technologies: A graduate level course that covers the fundamentals of W3C standards such as OWL, RDF and SPARQL.

- Linked Data Management: A graduate level course that covers RDF storage, querying and reasoning.

- Big Data Analytics: A graduate level course that would have *Cloud Computing* course as a prerequisite and covers topics such as data collection, cleaning, and analysis on a large scale.

Educational institutes play an important role in training and mentoring students into the next generation leaders. I am confident that, from my experience and expertise, I can design good courses, teach, train, and mentor students so that they can contribute to science and the society. This opportunity to make a positive impact and create a lasting impression on the students is my main motivation to pursue an academic position.