

Teaching and mentoring students are important components of being an academic, as these ensure the steady progress of science and technology. This is a key factor in my interest in an academic position.

My teaching philosophy is to be **a guide for the students**, and help them to learn the course materials. This involves preparing introductory lectures which deliver the fundamental concepts in simple terms, as well as carefully designing regular assignments and projects to help them explore and better comprehend the topics on their own pace. I believe that much of the learning effort is on the students' side, and as a teacher, I would facilitate their learning process and also keep them motivated by presenting relevant and up-to-date materials. I have learned several effective teaching techniques from my own teachers, which I am planning to implement, including asking students to do a short reading before the class to be prepared for the more complicated lectures, having as many assignments as possible to apply a divide and conquer strategy and modularize the course load, having bonus assignment to help the more curious minds grow beyond the syllabus limits, and implementing a fair and transparent grading policy.

I intend to explore and **embrace the new teaching technologies and contribute to them**. Technology plays an important role in the educational system, and it is revolutionizing the learning process. I believe that in the future, education would be delivered much differently and more effectively. My PhD advisor and I have been involved with the “digital learning pilots” team at University of Alberta, where I visited Udacity, an online course delivery system, to investigate possible partnership in delivering MOOCs (Massive Online Open Courses) through their platform. I have also worked on the research side of educational technology and developed [a toolbox](#) to help the instructors better monitor the interaction and involvement of students in their courses, when the course uses computer-supported collaborative learning tools such as Moodle. Since its release, this toolbox has been frequently used for educational and research purposes (500 downloads).

During my undergraduate and graduate studies, I had several teaching experiences, including teaching assistantships for courses on “introduction to computing”, “data structures”, “compiler design”, “design of algorithms”, and “multimedia systems”; where I was responsible for delivering short sessions at the start of the labs, helping the students to solve the hands-on assignments, holding office hours, and grading projects. Based on these experiences, I find the teaching component of being a faculty member intriguing and look forward to design and teach my own classes. I can teach computer science or software engineering undergraduate course, as well as introductory graduate courses for *machine learning* and *artificial intelligence*, and advanced topics in *data mining* and *network science*.

My mentoring philosophy is to be **a colleague for the mentee** and to adjust the level of supervision as she becomes more senior, eventually helping her to be an independent researcher. I have had the opportunity of working with several junior graduate students; four of whom became collaborators in published research papers. Currently, I am mentoring and collaborating with four graduate students on projects in different stages. Mr. Chiragh Nagpal from Language Technologies Institute is perfecting his academic writing skills and submitting his first research papers. Mr. Siddharth Satpathy from Physics Department is following up on the impressive results he obtained in a course project that I helped define, and he would submit his work to a top-tier conference after further experiments and evaluation. Ms. Dhivya Eswaran from Machine Learning Department is working on the extensions of our published conference paper. And finally, Mr. Shourya Singh Gupta from Heinz College is working on a real world application to help early detection of hospital transmitted infections. These collaborations enables me to engage in multiple interesting projects, whereas the experience is both enjoyable and rewarding.

I strongly believe in diversity and try to engage in service and outreach programs. This year, I am in the organizing committee for the “broadening participation in data mining” workshop which aims at fostering mentorship and guidance of minority and underrepresented groups in data mining. As a part of the mentoring committee, I help designing the mentoring sessions, as well as the logistics of the application review process. In the past, I also designed and organized sessions in different outreach programs targeting high school girls, to show them the exciting side of computer science; including women in engineering, science & technology conference, and CIPS women in technology program, both organized annually at University of Alberta.