

My teaching philosophy is to be *a guide for students*. I believe that much of the learning, particularly in computer science and computer engineering, is through students' involvement. As a teacher, I will present relevant and up-to-date materials to pique their interest, and act a facilitator for their learning process. This mainly includes i) preparing introductory lectures to deliver the fundamental concepts and basic intuitions in simple terms and through examples, ii) designing regular assignments and projects in which they can better comprehend the topics at their own pace, and iii) implementing a transparent grading to provide them timely feedback and enable them to monitor their progress. I will also try to implement a flexible and audience aware curriculum to tailor toward student's diverse backgrounds, interests, and goals.

I intend to explore and *leverage new teaching technologies* and contribute to them, believing that technology plays an important role in the education. When at the University of Alberta (UofA), as a part of an effort to initiate massive online open courses, I visited Udacity, an online course delivery system, to investigate a possible partnership with them in delivering courses through their platform (on behalf of the UofA's digital learning pilots team), and also in building analytical tools for their data, e.g., to predict student dropouts (on behalf of Alberta Innovates Centre for Machine Learning). During my graduate research, I also developed a [toolbox](#) to showcase how graph analysis can help the instructors monitor the interaction and involvement of students in their courses. Since its release, this toolbox has been frequently downloaded for educational and research purposes, more than 500 times.

During my undergraduate and graduate studies, I had several teaching experiences, including teaching assistantships for courses on data structures, compiler design, algorithm design, and multimedia systems. I was responsible for delivering introductory sessions at the start of the labs, helping the students to solve the hands-on assignments, holding office hours, and grading their projects. More recently, I had the opportunity to give a guest lecture on my research on network science in computing for good course at the Carnegie Mellon University (CMU). Based on these experiences, I find the teaching component of being a faculty intriguing and look forward to designing and teaching my classes. I can teach introductory computer science courses, as well as graduate courses on topics in *machine learning, data mining* and *network science*.

My mentoring philosophy is to be *a colleague for mentees*. In particular, to reduce the level of supervision as much as possible, and foster independent research. I have had the opportunity of working with several junior graduate students; six of whom became collaborators in published research papers. Currently, I am mentoring and collaborating with five graduate students and an undergraduate research assistant. David Bayani from the Auton Lab at CMU is learning the basics of scientific research and is applying to graduate schools. Chiragh Nagpal from Language Technologies Institute at CMU is perfecting his academic writing skills and recently submitted his first conference papers. Siddharth Satpathy from Physics Department at CMU is following up on the impressive results he obtained in a data mining course project. Dhivya Eswaran from Machine Learning Department at CMU has recently submitted our second joint conference paper. Last but not the least, Shiva Zamani from Computing Science Department at UofA is working on improving our benchmark generators for evaluation of community detection algorithms. These collaborations enable me to engage in multiple projects, whereas the experience is both enjoyable and rewarding.

I firmly believe in diversity and try to engage in service and outreach programs. This year, I served on the organizing committee for the *broadening participation in data mining (BPDM)* workshop at the ACM SIGKDD Conference on Knowledge Discovery and Data Mining. BPDM provides funding for minority and underrepresented groups to attend this main conference in data mining, and further provides mentorship and guidance for them. As a part of the mentoring committee, I helped in designing the mentoring agenda, as well as the logistics of the application review process. In the past, I designed and organized sessions for different outreach programs targeting high school girls, including SET (science, engineering and technology) conference by WISSET (women in scholarship, engineering, science & technology), and WIT (women in technology) program by CIPS (Canadian information processing society), both hosted annually at University of Alberta.