Teaching Statement

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I find that teaching is not only passing on the knowledge about a topic. It is explaining the fundamentals and how to approach and tackle challenging problems. It is transferring the passion of problem solving and understanding. Throughout my studies, I have been fortunate enough to learn from great advisers, and understand the impact a lecturer’s enthusiasm can have on his students.

**My approach.** Depending on the level of the lecture, it is important to ensure that students understand the fundamental concepts and help them in the development of their problem solving skills. I am also a strong believer in active participation in class. I want to encourage students to be engaged with the material in order to ensure that the pace of the lectures is well and that they find it interesting. As computer systems are complex and changing rapidly, practical experience is essential for all students, and in particular for students specializing in any area of systems. Therefore, I intend to put emphasis on hands on experience with semester-long projects, and promote the importance of team work collaboration. The main objective is to directly apply some of the concepts covered in class, build something more substantial as part of a team, and finally be able to understand and analyze the end system. In later stages of the curriculum, I plan to engage the students to read and analyze state-of-the-art research and systems. Through highly interactive seminars, students get encouraged to actively discuss problems, ideas, and concepts introduced by fundamental and recent research papers.

**Mentoring.** As a research advisor, I plan to lead a small number of research projects that will involve a few students. Based on my personal experience, and similar to my teaching approach, I think that collaborative work allows students to address even the most challenging problems. It not only enables them to make faster progress, but also provides a basis for students to help one another with the obstacles they face throughout the project lifecycle. In the beginning, the challenge would be finding the right topic for each student, which overlaps with their interests. Hence, initial guidance is critical to steer them in the right direction, but as time progresses I will encourage students to become more independent and take over control of the project.

During my academic studies, I have supervised many students throughout their semester long project as a TA for Advanced Systems Lab. As part of their project, students had to design, implement, benchmark, model, and analyze a three-tier messaging system. My role was assisting them and providing feedback, but still giving enough room for their creativity in designing the system. Naturally, in the end the goal was that by analyzing and modeling the system they have built, they understand the trade-offs as well as the consequences of their design decisions. I have also co-advised two students during their six-month master thesis project at ETH Zurich – Alessandro Dovis, and Zaheer Chothia. I think one of the most rewarding experience was that Zaheer decided to continue his academic career as part of ETH and joined as a Ph.D. student shortly after finishing his master studies.

**Teaching.** I enjoy teaching. I have been a teaching assistant for both undergraduate and graduate classes in ten semesters throughout by studies, and I was the head TA for Advanced Systems Lab in 2014 and 2015. As such, I have experience in managing TAs, preparing and grading assignments and exams, giving tutorials and exercise sessions. I would like to teach systems-related classes at all levels. Example classes include: database systems, data processing on modern hardware, operating systems, parallel programming, as well as seminars covering hot topics from databases, systems support for data science, Big Data, operating systems, etc. However, if needed I can also teach other classes at undergraduate level.

**Outreach.** Diversity is key to identifying interesting problems and coming up with innovative solutions, but as a discipline we have had a difficulty attracting students with diverse backgrounds (e.g., women or minorities). As a woman in computing coming from Southeastern Europe, I want to lead by example. In fact, in my home country half of the CS department and student body are women. Attracting a more diverse pool of students requires outreach to high school students, breaking the stereotypes and bringing role models. At the university, it is important that as faculty we encourage students to embrace diversity as part of their team work.

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1[http://www.systems.ethz.ch/courses/fall2015/asl](http://www.systems.ethz.ch/courses/fall2015/asl)