Teaching Statement
Venkat Chakaravarthy

I have had the pleasure of teaching on a few occasions. I have taught an introductory course in computer science intended for undergraduate students specializing in other disciplines. The course offered a quick tour of various aspects of computer science and also hands-on experience with using some popular software. Teaching the course was a rewarding experience for me. I was invited a few times by Professor Jin-Yi Cai to give lectures in his courses on theory of computation and complexity theory. I have also been a teaching assistant for introductory courses in theory of computation and compiler construction, and advanced courses in complexity theory and algorithms. I enjoyed interacting with the students on these occasions. I consider teaching to be a charming aspect of an academic job and it is one of the reasons for my aspiration to become a faculty member.

I look forward to teaching the following courses.

- Introductory courses in theory of computing, algorithms, compiler design and database systems.
- An advanced course in algorithms covering the two important topics of approximation algorithms and randomized algorithms. I plan to emphasize on major design principles using recent results as examples.
- An introductory course in complexity theory that deals with the fundamental ideas from the subject. It would be catered towards students specializing in all areas of computer science.
- Advanced courses in complexity theory with the goal of bringing students closer to pursuing their own research. I plan to discuss important research topics such as derandomization, pseudorandom generators, randomness extractors, lower bounds, and the PCP theorem and non-approximability results.