

Title: Feasibility and Certification in Difference Constraint Systems

Speaker : K. Subramani

Time: Monday Feb 9th, 11am

Place: NC 1311

Abstract:

In this talk, I will introduce a new algorithm called the Stressing Algorithm for the problem of checking the feasibility of a conjunction of difference constraints. This algorithm has two unique features, viz., it is greedy and it is in-place. The space savings becomes significant when one considers that there are instances of program verification problems with millions of such constraints.

We also focus on the optimal-length certification problem.

In this problem, we are given an infeasible constraint system and the goal is to find the shortest proof of infeasibility.

Although this problem is NP-complete in general, we devise a polynomial time algorithm for the case of Difference Constraint systems.

Bio: Prof. K. Subramani is an Associate Professor at the Lane Department of Computer Science and Electrical Engineering. His research is sponsored by the Air-Force Office of Scientific Research.

Vita: <http://www.csee.wvu.edu/~ksmani/biod/outvita.pdf>