

2012/2013
**Seminar
Series**

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**A Dynamic Moldable Job Scheduling
Based Parallel SAT Solver**

By: Sajjad Asghar, Ph.D. Candidate

**Nearest Facet of a Higher Dimensional
Convex Hull to an Inner Point**

By: Zhan Gao, MCS Candidate

A Dynamic Moldable Job Scheduling Based Parallel SAT Solver

Boolean Satisfiability (SAT) is amongst the most important problems in theoretical computer science. We present a parallel SAT solver called DMSAT. DMSAT can solve hard SAT problems that were not solvable by miniSat and other parallel SAT solvers in the past SAT race competitions.

Nearest Facet of a Higher Dimensional Convex Hull to an Inner Point

In a convex polytope given by linear inequalities, finding the nearest facet can be solved using linear programming. However for convex polytope given as a convex hull of points, such a computation would be time consuming. By applying a simplex with suitable radius, we can prune facets and vertices which are far away from that point. The remaining polytope which is generated by the remaining vertices and the intersection points of original polytope and the simplex will be hopefully less complex than the original one.

**Wednesday, May 1st @ 3:30pm
Gillin Hall (540 Windsor St.) , GD124**