

abstract

COMPUTER SCIENCE/DISCRETE MATH I

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Suppose you ran a chess tournament, everybody played everybody, and you wanted to use the results to rank everybody. Unless you were really lucky, the results would not be acyclic, so you could not just sort the players by who beat whom. A natural objective is to find a ranking that minimizes the number of upsets, where an upset is a pair of players where the player ranked lower on the ranking beats the player ranked higher. This is the NP-hard minimum feedback arc set (FAS) problem on tournaments. Our main result is a polynomial time approximation scheme (PTAS) for this problem. A simple weighted generalization gives a PTAS for Kemeny-Young rank aggregation.

Joint work with Claire Kenyon-Mathieu