SIAM Student Chapter
Seminar

Ranking Theory: models and applications

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Abstract: Theory of pairwise comparison gives rise to a familiar ranking problem. Given n objects and the pairwise comparison data we wish to label (rank) the objects from "best" to "worst." Throughout the past century this problem has been restated in terms of sports, bibliography, and web ranking, to name a few. Recent notable mathematical models ranking sport teams include those by Keener, Massey, and Colley. The objects to rank are sports teams and pairwise comparisons are games. Two successful web page ranking models are PageRank and HITS used by search engines Google and Ask. In this case the web pages are ranked using hyperlink structure of the web. In this talk we cover the basics of pairwise comparison theory and go over the PageRank and HITS models. Both ranking models served as inspirations for two new generalized methods, GeM and mHITS. We use sports ranking problem to demonstrate the models and use them to do game prediction as a way of comparing them to the previous methods.

Friday, April 25th, 2008, 1:00 p.m.
Mathematics & Science Center, Room W306

Refreshments will be served before the talk. We will go out for pizza at Everybody's after the talk.

Mathematics and Computer Science
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