Faculty of Computer Science
2002-2003 Seminar Series

The Two Median Problem on a Tree with Positive and Negative Vertex Weights

By
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3:30 p.m.
ITC317

Refreshments will be served at 3:15 p.m.

The k-median problem is a well-known optimization problem in location theory. It asks for the best placement of k facilities relative to the known positions of a set of clients such that certain economic criteria are satisfied. Frequently, the facilities provide a service to the clients and the aim is to locate facilities such that the total distance traveled from clients is minimized. However, there are instances in which facilities are obnoxious and need to be as far as possible from the clients.

The problem presented is a generalization of the usual case in which the facilities are obnoxious to some but not all clients. It was proposed by Burkard et al. in 2000 who also gave an O(n^2) algorithm for the case when both clients and facilities are vertices of an arbitrary tree. In this talk, we present an algorithm that runs in O(n log^2 n) time. This result is joint work with Dr. Binay Bhattacharya and David Breton at Simon Fraser University.

GRADUATE STUDENTS ARE ENCOURAGED TO ATTEND