

The Hong Kong Polytechnic University Department of Applied Mathematics

Seminar On

Data Mining via Multiple Criteria Mathematical Programming

by

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Abstract

For last decade, the researchers have extensively applied quadratic programming into classification, known as V. Vapnik's Support Vector Machine, as well as various applications. However, using optimization techniques to deal with data separation and data analysis goes back to more than forty years ago. According to O. L. Mangasarian, his group has formulated linear programming as a large margin classifier in 1960's. In 1970's, A. Charnes and W.W. Cooper initiated Data Envelopment Analysis where a fractional programming is used to evaluate decision making units, which is economic representative data in a given training dataset. From 1980's to 1990's, F. Glover proposed a number of linear programming models to solve discriminant problems with a small sample size of data. Then, since 1998, the author and his colleagues extended such a research idea into classification via multiple criteria linear programming (MCLP) and multiple criteria quadratic programming (MQLP). These methods differ from statistics, decision tree induction, and neural networks. In addition to technical issues, this talk will report the significant results from credit assessment management, information intrusion, bio-informatics, etc. The purpose of the talk is to promote the research interests in the connection of optimization and data mining as well as real-life applications among the growing data mining communities.

- Date : 30 May, 2008 (Friday)
- Time : 3:00 4:00 p.m.
- Venue : Departmental Conference Room HJ610 The Hong Kong Polytechnic University

*** ALL ARE WELCOME ***