The Hong Kong Polytechnic University
Department of Applied Mathematics

Seminar
On

Variable Selection for Recurrent Event Data via Nonconcave Penalized Estimating Function

by

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Abstract

Variable selection is an important issue in all regression analysis and in this paper, we discuss this in the context of regression analysis of recurrent event data. Re-current event data often occur in long term studies in which individuals may experience the events of interest more than once and their analysis has recently attracted a great deal of attention. However, it seems that there are no established approaches to the variable selection with respect to recurrent event data. For the problem, we adopt the idea behind the nonconcave penalized likelihood approach proposed in Fan and Li (2001) and develop a nonconcave penalized estimating function approach. The proposed approach selects variables and estimates regression coefficients simultaneously and an algorithm is presented for this process. We show that the proposed approach performs as well as the oracle procedure in that it yields the estimates as if the correct submodel was known. Simulation studies are conducted for assessing the performance of the proposed approach and suggest that it works well for practical situations. The proposed methodology is illustrated by using the data from achronic granulomatous disease study.

Date : 3 February, 2009 (Tuesday)

Time : 3:00 – 4:00 p.m.

Venue : Departmental Conference Room HJ610
The Hong Kong Polytechnic University

*** * * ALL ARE WELCOME * * ***