Math Awareness Month Speaker

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Wednesday April 27th 12:30 PM
Science Hall East room 2063

The Identifiability of Dependent Competing Risks Models Induces by Bivariate Frailty Models

Abstract

In this talk, we propose to use a special class of bivariate frailty models to study dependent censored data. The proposed models are closely linked to Archimedean copula models. We give sufficient conditions for the identifiability of this type of competing risks models. The proposed conditions are derived based on a property shared by Archimedean copula models and satisfied by several well-known bivariate frailty models. Compared with the models studied by Heckman and Honore and Abbring and van den Berg, our models can be identified with a discrete (even finite) covariate. Under our identifiability conditions, expectation-maximization (EM) algorithm provides us with consistent estimates of the unknown parameters. Simulation studies have shown that our estimation procedure works quite well. We fit a dependent censored leukaemia data set using the Clayton copula model and end our paper with some discussions.

EVERYONE IS WELCOME TO ATTEND

(Talk will be followed by Pi Mu Epsilon Induction Ceremony)