國立中山大學應用數學系
學術演講

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講　題：Regression association: From concordance to predictability

時　間：2023/02/20（Monday）11:10 ~ 12:00

地　點：理 SC 4011 教室

茶　會：12:00 ~ 13:00

Abstract

Measures of regression association aiming at predictability of a dependent variable Y from an independent variable X have received considerable attentions recently. However, there lacks a systematic discussion of these measures, including their rationale, properties, estimation, and extensions. In this talk, we introduce a general class of rank-based regression association measures which views the regression association of Y from X as the association of two independent replications from the conditional distribution of Y given X. This general class of measures applies to both continuous and non-continuous random variables. We show that the so-called Markov product copulas can be employed as a neat and convenient building block for this general class of measures, and the measures so constructed can be expressed as a common form of the proportion of the variance of some function of Y that can be explained by X, rendering the measures a direct interpretation in terms of predictability. Also, the notion of two independent replications from the conditional distribution leads to a simple nonparametric estimation method based on the induced order statistics, together with simple asymptotic theory for continuous X and Y that are independent of each other. Real data examples are presented to illustrate the utilities of the considered general framework of the regression association measures. Lastly, we discuss some possible extensions.

敬 請 公 告！ 歡 迎 參 加！

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