SEMINARIO DEL DEPARTAMENTO DE PROBABILIDAD Y ESTADÍSTICA

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BAYESIAN NONPARAMETRIC CONDITIONAL COPULA ESTIMATION OF TWIN DATA

Several studies on heritability in twins aim at understanding the different contribution of environmental and genetic factors to specific traits. Considering the National Merit Twin Study, our purpose is to correctly analyse the influence of the socioeconomic status on the relationship between twins' cognitive abilities. Our methodology is based on conditional copulas, which allow us to model the effect of a covariate driving the strength of dependence between the main variables. We propose a flexible Bayesian nonparametric approach for the estimation of conditional copulas, which can model any conditional copula density. Our methodology extends previous work by introducing dependence from a covariate in an infinite mixture model. Our results suggest that environmental factors are more influential in families with lower socio-economic position.

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http://www.dpye.iimas.unam.mx/txt/seminarios.html