

Modeling covariate-contingent correlation and tail-dependence with copulas

Feng Li

Department of Statistics, Stockholm University, Stockholm, Sweden

feng.li@stat.su.se

Copula functions give an approach of constructing multivariate densities with flexible combinations of distinct marginal distributions and also measures degrees of dependence in the tail and correlations of the marginal distributions via a novel strategy. Nevertheless common approaches of estimating tail dependence and correlations are through nuisance parameters which yields the final results neither tractable nor interpretable for practitioners. In this paper we address the problem by presenting a general Bayesian approach for directly modeling covariate-linked tail dependence and correlations. Posterior inference is carried out using a novel and efficient simulation method.

Keywords: Extremes, Kendall's τ ; Bayesian variable selection; predictive inference