

# Generalized additive models for conditional dependence structures

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We develop a generalized additive modeling framework for taking into account the effect of predictors on the dependence structure between two variables. We consider dependence or concordance measures that are solely functions of the copula, because they contain no marginal information: rank correlation coefficients or tail-dependence coefficients represent natural choices. We propose a maximum penalized log-likelihood estimator and derive its root-n-consistency and asymptotic normality. Finally, we present the results from a simulation study and apply the new methodology to a real dataset. This is joint work with Thibault Vatter.

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