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Improving Quadratic Inference Functions via Covariance Matrix Shrinkage

In this talk, I will present a new construction of quadratic inference functions (QIF) that have received increasing attention in longitudinal data analysis. This new construction is based on a covariance matrix shrinkage, which ensures the QIF to be analytically valid and computationally stable when data are sparse or interaction terms are included in the marginal generalized linear models. Some numeric illustration will be given to demonstrate the proposed method.