

Conditional predictive inference for linear sub-models of high-dimensional data

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We deal with the estimation of the distribution of the prediction error conditional on the training data based on a jackknife type approach in a setting where the number of regressors grows proportionally with the number of observations. That estimation may be used to construct (asymptotically valid) confidence intervals as well as estimating the MSE or MAE of the method used in the prediction. While both the true and the working model are restricted to be linear, we allow for a misspecified setting in the sense that only a lower-dimensional linear transformation of the true regressors are available. We show that for a range of estimators including the OLS estimator our approach leads to an asymptotically accurate estimation.

Primary author: AMANN, Nicolai (University of Vienna)

Co-authors: Mr STEINBERGER, Lukas (University of Vienna); Mr LEEB, Hannes (University of Vienna)

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