

SCALED FISHER CONSISTENCY OF THE PARTIAL LIKELIHOOD ESTIMATOR IN THE COX MODEL WITH ARBITRARY FRAILTY

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Abstract. It is argued that inference based on the Cox regression model and the partial likelihood estimator is possible for various extensions of the model, which in particular include an arbitrary frailty variable. We demonstrate that the estimator in such a general setup is Fisher consistent up to a scaling factor under symmetry type distributional assumptions on explanatory variables. A simulation experiment shows exemplary behaviour of the estimator and also of a test of fit based on the Anderson–Darling statistic for different Cox model extensions.

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