

survAUC: Estimators of Prediction Accuracy for Time-to-Event Data

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The evaluation of predictions for continuous time-to-event outcomes has become a key interest in biostatistical research. In contrast to the situation where predictions for uncensored outcomes have to be evaluated, deriving measures of prediction accuracy is not straightforward in the presence of censored observations. This is because traditional performance measures for continuous outcomes (such as the mean squared error or the R^2 fraction of explained variation) are biased if applied to censored data.

The `survAUC` package (Potapov et al. 2011) implements a variety of estimators to evaluate survival predictive accuracy. The focus is on estimators of discrimination indices that measure how well a prediction model separates observations having an event from those having no event (Pepe et al. 2008). In addition, `survAUC` provides R functions to estimate likelihood-based coefficients (O’Quigley et al. 2005) and measures based on scoring rules (Gerds and Schumacher 2006).

References

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