

Calibrating Prediction Intervals for Recurrent Events

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Abstract

In many applications there are types of events occurring repeatedly over time. It is often of interest to predict the future number of occurrences of these events. Usually, these predictive statements are made using plug-in prediction intervals. However, it is well-known that this approach can provide intervals with a coverage probability substantially below the desired level.

Considering cases where these recurrent events can be modeled using non-homogeneous Poisson processes with random effects, I will present methods to obtain intervals with coverage probabilities closer to the desired level. This will be done using calibration techniques and Bayesian-like methods.