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GAMs in non-life insurance pricing

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Abstract

In this thesis, the predictive ability of two types of insurance pricing models is compared. We use cross-validation on the mean squared error for measuring this. The analysis is based on actual insurance data from the nineties. The main focus is on the value of replacing linear expressions used in a classical generalized linear model with socalled smoothing splines. If the replacement leads to lower prediction errors, this will help insurance companies provide customers with more fair prices. Unfortunately, we cannot conclude anything significant. It does, however, seem like the more advanced model has a slight edge on the simpler model when it comes to modeling variables with many levels and seemingly continuous behavior.

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