NPRegfast: factor-by-curve interaction models in *R*

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In a nonparametric regression framework, issues of interest include the so-called factor-by-curve interaction [5, 6, 1], where the effect of a continuous covariate on response varies across groups defined by levels of a categorical variable. The **NPRegfast** package introduces an estimation method for this type of models along with different techniques for drawing inferences about them. The package enables *R* users to compare the regression curves specific to each level, and even to compare their critical points (maxima, minima or inflection points) through the study of their derivatives. Local polynomial kernel smoothers [7, 3], with an optimal bandwidth selection, are used in the estimation procedure. Inference with this package (confidence intervals and tests) is based on bootstrap resampling methods [2]. Accordingly, binning acceleration techniques [4] are also implemented to ensure that the package is computationally efficient.

References

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