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Combination forecasts of tourism demand with machine learning models.

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Resumen: The main objective of this study is to analyse whether the combination of regional predictions generated with machine learning (ML) models leads to improved forecast accuracy. With this aim, we construct one set of forecasts by estimating models on the aggregate series, another set by using the same models to forecast the individual series prior to aggregation, and then we compare the accuracy of both approaches. We use three ML techniques: support vector regression, Gaussian process regression and neural network models. We use an autoregressive moving average model as a benchmark. We find that ML methods improve their forecasting performance with respect to the benchmark as forecast horizons increase, suggesting the suitability of these techniques for mid- and long-term forecasting. In spite of the fact that the disaggregated approach yields more accurate predictions, the improvement over the benchmark occurs for shorter forecast horizons with the direct approach. [ABSTRACT FROM AUTHOR]

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