Rage against the mean - an introduction to distributional regression

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ABSTRACT: Distributional regression models that overcome the traditional focus on relating the conditional mean of the response to explanatory variables and instead target either the complete conditional response distribution or more general features thereof have seen increasing interest in the past decade. In this presentation, we will focus on generalized additive models for location, scale and shape as a flexible and versatile tool for distributional regression. We will introduce the underlying methodology and illustrate its application in different case studies. Furthermore, we will briefly review competing distributional regression approaches such as conditional transformation models or quantile and expectile regression.

KEYWORDS: conditional transformation models, generalized additive models for location, scale and shape, quantile regression, semiparametric regression.