Math.-Nat. Sektion

FB Informatik und Informationswissenschaft

Universität Konstanz

Do 11.11.21
10:00 Uhr

Raum: G 300

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Gradient Ascent for Best Response Regression

Although regression is among the oldest areas of statistics, new approaches may still be found. One recent suggestion is Best Response Regression, where one tries to find a regression function that provides, for as many instances as possible, a better prediction than some reference regression function. We propose a new method for Best Response Regression that is based on gradient ascent rather than mixed integer programming. We evaluate our approach for a variety of noise (or error) distributions, showing that especially for heavy-tailed distributions best response regression approach outperforms, on unseen data, ordinary least squares regression, both w.r.t. the sum of squared errors as well as the number of instances for which better predictions are provided.

(Joint work with Victoria Racher)