Bayesian Boosting - A new approach to data science, unifying two statistical philosophies

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This project deals with a completely new area of data science: estimating Bayesian models by boosting methods, a statistical learning approach. The philosophies of both fields seem contradictory at first glance. This also leads to the current situation of statistical methods research being strictly divided and hardly any researcher working in both worlds. The Bayesian community has grown immensely in the last decades and rendered possible an extreme amount of new types of models. It however has the reputation of producing its interesting results very slowly and, even when using selection and shrinkage methods, very often failing to give precise and unambiguous guidelines for selection or exclusion of variables. Boosting methods on the other side can deal with exactly those situations even when facing big data problems, yet lack of straight forward ways to construct estimators for the precision of the parameters such as variance or confidence intervals. Combining those two methods could lead to a powerful new approach, benefitting immensely from both worlds. The project thus tries to combine the strengths of the two approaches to overcome the weaknesses of both.

Projektbeteiligte

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Es werden die Institutionen genannt, an denen das Vorhaben durchgeführt wurde, und nicht die aktuelle Adresse.

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