



Deconfounding and causal regularization for stability and external validity

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Abstract:

We discuss simple and user-friendly “plug-in” techniques to improve stability, distributional robustness and external validity of statistical analyses and algorithms. The methods ground in the tasks of removing hidden confounding and causal inference. While fully addressing these tasks is often a rather unrealistic goal, especially in nowadays context of “unspecifically collected data”, we argue that substantial improvements over standard methods can be achieved with the proposed “plug-in” approaches.

Keywords:

Anchor Regression; High-Dimensional Models; Instrumental Variables Regression; Lasso; Structural Equation Model