

Minimax weights for generalized M-estimation in biased regression models

S. Sinha¹ and D.P. Wiens²

¹ Department of Mathematics and Statistics, University of Winnipeg , Winnipeg, MB, Canada, R3B 2E9
e-mail: s.sinha@uwinnipeg.ca

² Department of Mathematical and Statistical Sciences, University of Alberta, Edmonton, AB, Canada
T6G 2G1 e-mail: doug.wiens@ualberta.ca

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Abstract: The authors consider the construction of weights for Generalized M-estimation. Such weights, when combined with appropriate score functions, afford protection from biases arising through incorrectly specified response functions, as well as from natural variation. They obtain minimax fixed weights of the “Mallows” type under the assumption that the density of the independent variables is correctly specified, and adaptive weights when this assumption is relaxed. A simulation study indicates that one can expect appreciable gains in precision when the latter weights are used and the various sources of model uncertainty are present.