Semiparametric robust mean estimations based on the orderliness of quantile averages

Tuban Lee

This manuscript was compiled on June 7, 2023

semiparametric | mean-median-mode inequality | asymptotic | unimodal | Hodges–Lehmann estimator

Inequalities related to weighted averages

The bias bound of the ϵ-symmetric trimmed mean also exhibits monotonicity for $\mathcal{P}_U \cap \mathcal{P}^2_{\mathbb{R}}$, as proven in the SI Text by applying the formulae provided in Bernard et al.'s paper (1).

Data Availability. Data for Figure **??** are given in SI Dataset S1. All codes have been deposited in GitHub.

ACKNOWLEDGMENTS. I sincerely acknowledge the insightful comments from the editor which considerably elevated the lucidity and merit of this paper.

1. C Bernard, R Kazzi, S Vanduffel, Range value-at-risk bounds for unimodal distributions under partial information. *Insur. Math. Econ.* **94**, 9–24 (2020).