Near-consistent robust estimations of moments for unimodal distributions

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Descriptive statistics for parametric models currently heavily rely on the accuracy of distributional assumptions. Here, leveraging the structures of parametric distributions, a series of sophisticated yet efficient estimators, robust to both gross errors and departures from parametric assumptions, are proposed for estimating mean and central moments for common unimodal distributions.

orderliness | invariant | unimodal | adaptive estimation | U-statistics

Theorem .1.

Proof. □

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

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