

## Improved confidence intervals for quantiles

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**Abstract** We derive the Edgeworth expansion for the studentized version of the kernel quantile estimator. Inverting the expansion allows us to get very accurate confidence intervals for the  $p$ th quantile under general conditions. The results are applicable in practice to improve inference for quantiles when sample sizes are moderate.

**Keywords** Edgeworth expansion · Quantile · Kernel quantile estimator · Confidence interval