

Jackknife Inference for Nonparametric and Semiparametric Models

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Abstract

This paper develops a general framework for bias correction and inference in nonparametric and semiparametric models. Building on Higgins (2026), we show how to combine a collection of estimators computed using different bandwidth parameters to deliver jackknife bias-corrected point estimators that are more efficient than those currently in use. Going further, we construct jackknife t -statistics which allow us to conduct inference without the need for a pilot bandwidth or an analytic variance formula. Our framework covers a broad class of kernel-based estimators including kernel density estimation at a point, local linear regression, and regression discontinuity designs.

Keywords: Jackknife bias correction, Jackknife t -statistics, Local polynomial regression, Regression discontinuity.

JEL classification: C12, C13, C14.

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