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Asymptotic normality of nearest neighbor regression function estimates. (English)

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Ann. Stat. 12, 917-926 (1984).

Summary: Let (X, Y) be a random vector in the plane. We show that a smoothed N.N. estimate of the regression function $m(x) = \mathbb{E}(Y|X = x)$ is asymptotically normal under conditions much weaker than needed for the Nadaraya-Watson estimate. It also turns out that N.N. estimates are more efficient than kernel-type estimates if (in the mean) there are few observations in neighborhoods of x .

MSC:

62E20 Asymptotic distribution theory in statistics

62J02 General nonlinear regression

62G05 Nonparametric estimation

Cited in **5** Reviews
Cited in **33** Documents

Keywords:

nearest neighbor estimates; asymptotic normality; regression function; Nadaraya-Watson estimate; kernel-type estimates

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