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论文

回归函数改良核估计的强相合性及收敛速度

成平

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摘要 令(X,Y),(X_1,Y_1),…,(x_n,Y_n)为R~p×R~1上一串i.i.d。随机向量,且E(|Y|)<∞。研究如何利用(X_1,Y_1),…,(X_n,Y_n)观察的结果估计回归函数 m(x)=E(Y|X=x),
称为非参数回归函数估计问题。Watson和Nadaraya首先建议用核估计...

关键词
分类号

ON THE STRONG CONSISTENCY AND CONVERGENCE RATE OF IMPROVED KERNEL ESTIMATES FOR THE REGRESSION FUNCTION

CHENG PING

Abstract Let (X,Y) be an R~p×R~1 valued random vector and (X_1, Y_1),…, (X_n, Y_n) be a random sample drawn from (X, Y). We study the strong consistency and convergence rate of the improved kernel estimate _n(x) of the regression m(X) =E(Y|X), defined by where K(t) is a bounded nonnegative function on R~p with compact support and {b_n}, {h_n} are two sequences of positive numbers satisfying h_n→0, nh_n~p→∞, b_n→∞, It is shown that whenever E|Y|<∞. where r(l) =min {2,l}, then we have The strong convergence rate of estimatesfor m (x) under E|Y|~l<∞, l>1, is also considered.

Key words

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