Statistics Seminar Department of Mathematical Sciences

DATE:	Thursday, April 16, 2015
TIME:	1:15pm to 2:15pm
LOCATION:	WH 100E
SPEAKER:	Ruiqi Liu (Binghamton University)
TITLE:	Density estimation for power transformations—Paper Discussion

Abstract

I will discuss a paper of Olga Y. Savchuk and Anton Schick. Consider a random sample $X_1,\ldots X_n$ from a density f. For a positive $\alpha,\ldots y$ from a density f. For a positive $\alpha,\ldots y$ from a density f. For a positive $\alpha,\ldots y$ a kernel estimator based on the transformed data $t(X_1)$, ldots, $t(X_n)$ or by a plug- in estimator transformed from a kernel estimator based on the original data. In this paper, they compare the performance of these two estimators using MSE and MISE. For MSE, the plug-in estimator is better in the case $\alpha,\ldots y$ when $\beta,\ldots y$ while the transformed data estimator is better in the tails of $\beta,\ldots y$. For global comparison MISE, the plug-in estimator has a faster rate of convergence for $\beta,\ldots y$ le $\alpha,\ldots y$ and $\alpha,\ldots y$ and $\alpha,\ldots y$ has a better performance when $\alpha,\ldots y$ will be transformed data estimator has a better performance when $\alpha,\ldots y$ is right-skewed or heavy-tailed. Applications to real and simulated data illustrated these theoretical findings.

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