



The University of Chicago
Department of Statistics
Seminar Series

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Gaussian Local Likelihood and Local Correlation

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133 Eckhart Hall, 5734 S. University Avenue
Refreshments following the seminar in Eckhart 110.

ABSTRACT

Several attempts have been made to construct local dependence measures taking into account the values of the variables involved. For example, for large values of two stochastic variables X and Y the local correlation may be higher than for small values of X and Y . We present a novel approach to this problem by approximating the joint distribution of X and Y by a family of bivariate normal distributions and by using local likelihood to obtain an estimate of local correlation. The asymptotic analysis poses challenges that are quite different from those of traditional nonparametric regression. Illustrations on real and simulated data will be given, and a number of possible extensions of the theory will be pointed out.