McMASTER UNIVERSITY

GRADUATE PROGRAM IN STATISTICS

STATISTICS SEMINAR

Speaker: Dr. Jeffrey S. Racine
Department of Economics
McMaster University

Title: Nonparametric Estimation of Regression Functions in the Presence of Irrelevant Regressors.

Day: Tuesday, November 20, 2007

Time: 3:30 - 4:30 PM

Place: HH/217 - Deloitte Colloquium Room
(refreshments in HH/216 at 3:00 PM)

SUMMARY

In this talk we consider a nonparametric regression model which admits a mix of continuous and discrete regressors, some of which may in fact be redundant (i.e., irrelevant). We show that, asymptotically, a data-driven least squares cross-validation method can remove irrelevant regressors. Simulations reveal that this automatic dimensionality reduction feature is very effective in finite-sample settings

This is joint work with Peter Hall (University of Melbourne, Australia) and Qi Li (Texas A & M University)

REFERENCES

- Peter Hall, Qi Li and Jeffrey S. Racine (2006) Nonparametric Estimation of Regression Functions in the Presence of Irrelevant Regressors. This manuscript will shortly be published in *The Review of Economics and Statistics*. A preprint can be found at `http://www.math.mcmaster.ca/canty/seminars/HallLiRacine2006.pdf`.
- Peter Hall, Jeffrey Racine and Qi Li (2004) Cross-validation and the estimation of conditional probability densities. *Journal of the American Statistical Association*, **99**, 1015-1026.

ABOUT THE SPEAKER

Dr. Jeffrey Racine received a BA and MA from McMaster University and then received a PhD from the University of Western Ontario under the supervision of Aman Ullah. He worked in the Departments of Economics at York University, University of Southern Florida and Syracuse University before returning to McMaster in 2005 to take up his current position as Senator William McMaster Chair in Econometrics.

Dr. Racine's research interests are primarily in statistical methods in economics and econometrics. In particular he studies non-parametric inference, model selection using cross-validation and entropy-based measures of dependence and their statistical foundations. He is also quite interested in parallel distributed computing and its application to computationally intensive nonparametric estimators.

Dr. Racine has published almost 50 papers in peer-reviewed journals in both economics and statistics. He has recently co-authored (with Qi Li) a book entitled *Nonparametric Inference: Theory and Practice* published in 2007. He is an active graduate supervisor with 8 current or graduated PhD students. He is currently co-editor of the Journal of Econometric Theory and Practice and is Guest Editor of for Advances in Econometrics (Vol. 24, Nonparametric Methods).

MORE SEMINAR INFORMATION

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