

Eco-922 Introduction to Nonparametric Econometrics

Course Description

Nonparametric methods have become increasingly popular in the empirical research in economics (growth empirics, demand or Engel curves, production functions, income distribution analysis). This course introduces students to kernel-based density and regression estimation and semiparametric models from an applied perspective. This will cover the basics of nonparametric density and regression estimation, , local polynomial regression, semiparametric estimation, conditional moment estimation, nonparametric estimation of derivatives, semiparametric and nonparametric estimation of simultaneous equation models, semiparametric estimation of discrete choice models, semiparametric estimation of selectivity models and other computer intensive methods which are important in applied work.

Learning Outcomes:

After completing the course, students should be able to:

- Understand principles of various nonparametric methods
- Research usefulness of the modern nonparametric techniques to the analysis of economic and financial data.
- Perform nonparametric estimation ,nonparametric quantile regression and semi-parametric Regression

Recommended Books:

Bowman, a. And azzalini, A. (1997) Applied smoothing techniques for data analysis, Oxford University Press: Oxford.

Cleveland, W.S. (1993) Visualizing data, Hobart Press: Summit, New Jersey.

Fan, J. and Gijbels, I. (1996) Local polynomial modelling and its applications, Chapman and Hall: London.

Loader, C. 1999 Local regression and likelihood Springer-Verlag: New York

Simonoff, J.S. (1996) Smoothing methods in statistics, Springer-Verlag: New York.

Wand, M.P. and Jones, M.C. (1995) Kernel smoothing, Chapman and Hall: London.