Statistical Machine Learning Seminar

Hosted by Department of Mathematical Sciences

- Date: Tuesday, April 12, 2016
- Time: 12:00-1:00
- Room: WH-100E
- Speaker: Ruiqi Liu (Mathematical Sciences)
- Title: TBA

Abstract

Consider that we are observing iid copies $(X_i, Y_i)_{i=1}^n$ from random vector (X, Y). According to some historical information, the marginal distributions of X and Y are known, but the joint distribution is unclear. A problem of interest is to estimate $\exp[h(X,Y)]$ for some measurable function h. This is of application value. For example, in insurance industry, some life insurance policies will cover both husband and wife . Let X,Y be the left life time of husband and wife after signing the policy and X, Y are usually dependent. The company is able to obtain the marginal distributions of X and Y from historical records. Often, the values of interest are $\min(X, Y)$, $\max(X, Y)$ or their distributions. This paper provides an empirical likelihood estimator to solve this problem. Some nice properties of our estimator are supported by theoretical analysis and simulation results.