Department of Decision Sciences

Statistics Seminar

Semiparametric posterior limits for regular and some irregular problems

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Thursday, 29 March 2012
12:30pm Room 3-E4-SR03 Via Rontgen 1 Milano

Abstract

We consider the Bayesian procedure from the frequentist perspective with a focus on marginal posterior limit distributions in regular (LAN) and some irregular (LAE) semiparametric estimation problems.
In the early 1950's Le Cam established the celebrated Bernstein-Von Mises theorem for regular (LAN) parametric estimation problems. In this talk, we extend Le Cam's theorem to regular semiparametric context, showing that the marginal posterior for the parameter of interest converges to the sampling distribution of any efficient semiparametric point-estimator, under straightforward conditions on model and prior. The methodology can be extended further to a class of irregular semiparametric estimation problems introduced by Ibrahimov and Hasminski which are not smooth but display what is called locally asymptotically exponentiality (LAE). We establish an exponential Bernstein-Von Mises limit for the marginal posterior in LAE semiparametric problems.

(Based on collaborations with P. Bickel and B. Knapik)

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