Gasparini, Mauro

Exact multivariate Bayesian bootstrap distributions of moments. (English) Zbl 0838.62032

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Summary: The common unknown probability law P of a random sample $Y_1, \ldots, Y_n$ is assigned a Dirichlet process prior with index α. It is shown that the posterior joint density of several moments of P converges, as $\alpha(\mathbb{R}) \to 0$, to a multivariate B-spline, which is, therefore, the Bayesian bootstrap joint density of the moments. The result provides the basis for possible default nonparametric Bayesian inference on unknown moments.

MSC:

62G09 Nonparametric statistical resampling methods
62G20 Asymptotic properties of nonparametric inference

Keywords:

multivariate B-spline; Dirichlet process prior; posterior joint density; moments; Bayesian bootstrap; nonparametric Bayesian inference

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