

## Extended Bernstein prior via reinforced urn processes

Lorenzo Trippa · Paolo Bulla · Sonia Petrone

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**Abstract** A reinforced urn process, which induces a prior on the space of mixtures of Bernstein distributions is introduced. A nonparametric Bayesian model based on this prior is presented: the elicitation is treated and some connections with Dirichlet mixtures are given. In the last part of the article, an MCMC algorithm to compute the predictive distribution is discussed.

**Keywords** Bayesian nonparametrics · Bernstein polynomials · Polya urn schemes