Bocconi

Università Commerciale Luigi Bocconi

Department of Decision Sciences

Statistics Seminars

A variational Bayes approach to debiased inference in high-dimensional linear regression

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12:00 pm Room 3-E4-SR03 Via Roentgen 1 Milano

Abstract

We consider statistical inference for a single coordinate of a high-dimensional parameter in sparse linear regression. It is well-known that high-dimensional procedures such as the LASSO can provide biased estimators for this problem and thus require debiasing. Motivated by recent theoretical advances on debiased Bayesian inference, we propose a scalable variational Bayes approach to this problem. We investigate the numerical performance of this algorithm and establish accompanying theoretical guarantees for estimation and uncertainty quantification.

Joint work with Ismael Castillo, Alice L'Huillier and Luke Travis.

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