

Neighborhood selection for discrete Markov random fields on graphs

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Resumo/Abstract:

We propose a penalized maximum likelihood estimator of the neighborhood of a node in a Markov random field defined on a graph. We prove the consistency of the estimator in the infinite volume case, allowing the set of candidate neighborhoods to grow with the sample size. We study the performance of the estimator on simulated data and show two applications on real data. This is a joint work with Iara Moreira Frondana from IME-USP.