

RBM throughout the training process. The strategy is based on the maintenance of independent estimates of the partition functions of the RBM at every temperature operating in the parallel tempering scheme. The authors combined bridge sampling estimates of the ratios of partition functions of neighboring chains (i.e. from parallel tempering) with AIS estimates across time to come up with a low variance estimate of the partition functions at every iteration of learning.

The tools described in this chapter provide many different ways of overcoming the problem of intractable partition functions, but there can be several other difficulties involved in training and using generative models. Foremost among these is the problem of intractable inference, which we confront next.