BDA

Bayesian Inference using Gibbs Sampling [BUGS]

Software for bayesian analysis of complex statistical models using MCMC methods.

__Gibbs Sampling__: Algorithm to generate a sequence of samples from the joint pdf of 2 or more R.Vs.
The purpose is to approximate a joint distribution or to compute an Integral.
Gibbs sampling is an example of a MCMC algorithm.

Gibbs Sampling is applicable when the joint distribution is not known explicitly, but the conditional distribution of each variable is known.

Gibbs sampling is particularly well adapted to sampling the posterior distribution of "a Bayesian network" (since Bayesian Networks are typically specified as a collection of joint conditional distributions.