ABSTRACT
Statistical methods for confidential data are in high demand, for reasons ranging from recent trends in privacy law to ethical considerations. Currently, differential privacy is the most widely adopted formalization of privacy of randomized algorithms in the literature. This article provides differentially private methods for handling model uncertainty in normal linear regression models. More precisely, we introduce techniques that allow us to provide differentially private Bayes factors, posterior probabilities, and model-averaged estimates. Our methods are conceptually simple and easy to run with existing implementations of non-private methods.