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# Model selection with normalizing flows

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The Bayesian evidence can be used to compare and select models based on observed data. However, calculating the evidence can be computationally expensive and sometimes analytically intractable. I present a novel method for rapid computation of the Bayesian evidence based on normalizing flows that rely only on the existence of a set of independent and identically distributed samples extracted from a target posterior distribution. The proposed method has wide applicability and can be employed on the results of Markov-chain Monte Carlo sampling, simulation-based inference, or any other sampled distribution for which we have an estimate of the (unnormalized) posterior probability density. The method is shown to produce fast yet similar evidence estimation in comparison to typical sampling techniques such as Nested Sampling. Finally, I present its application in the context of gravitational-wave data analysis.

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