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Gradient estimators without action derivative in Schwinger model.

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When training normalizing flows to approximate Boltzmann probability distribution, the usual approach to calculating gradients, based on the "reparametrization trick" requires backpropagation through the action. In the case of more complicated actions like fermionic action in QCD, this raises performance issues as well as problems with numerical stability. We present an estimator based on the REINFORCE algorithm that avoids this problem and demonstrate its efficacy in the case of the two-dimensional Schwinger model.

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