

Linked importance sampling Both AIS and bridge sampling have their advantages. If $D_{\text{KL}}(p_0||p_1)$ is not too large (because p_0 and p_1 are sufficiently close), bridge sampling can be a more effective means of estimating the ratio of partition functions than AIS. If, however, the two distributions are too far apart for a single distribution p_* to bridge the gap, then one can at least use AIS with potentially many intermediate distributions to span the distance between p_0 and p_1 . Neal (2005) showed how his linked importance sampling method leveraged the power of the bridge sampling strategy to bridge the intermediate distributions used in AIS and significantly improve the overall partition function estimates.