

MARNOV CHANNEL MONTE CARLO

18

► Solution: Markov chain Monte Carlo (MCMC)

- By the law of large numbers, the average a.s. converges to $\pi[f]$ as $T \rightarrow \infty$

$$\pi[f] = \lim_{T \rightarrow \infty} \frac{1}{T} \sum_{t=1}^T f(X_t)$$

▶ E.g. metropolis-Hastings, MALA, HMC, slice sampler, etc

- A class of MC methods that construct a Markov chain X_t that is stationary with respect to target π

► **Problem:** Generating samples is hard...



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PROBLEMS WITH MCMC

19

- **Problem:** MCMC kinda sucks...

