

# Metropolis Hastings

For  $k = 1, 2, \dots$

- Sample  $x'$  from a **wrong**  $Q(x^k \rightarrow x')$
- Accept proposal  $x'$  with probability  $A(x^k \rightarrow x')$
- Otherwise stay at  $x^k$

$$x^{k+1} = x^k$$

$$A(x \rightarrow x') = \min \left( 1, \frac{\hat{\pi}(x') Q(x' \rightarrow x)}{\hat{\pi}(x) Q(x \rightarrow x')} \right)$$