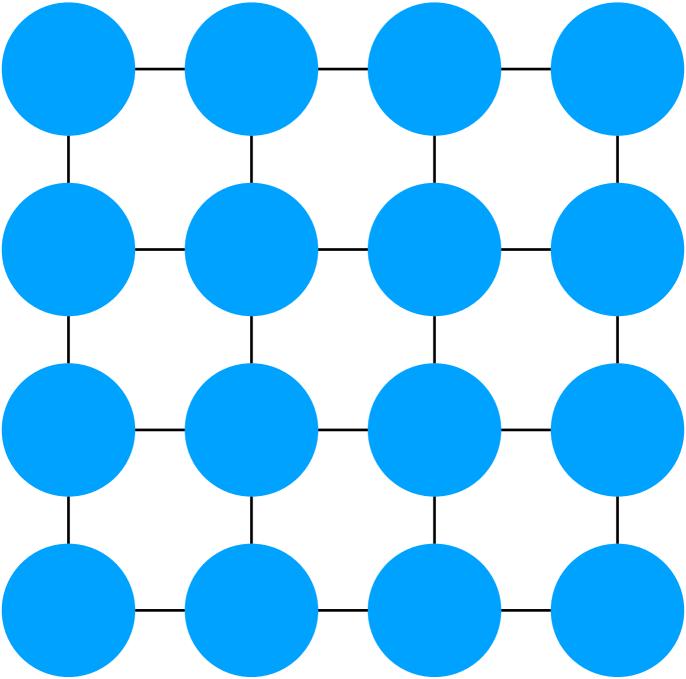
How to generate knockoffs?



 $\mathbb{P}(X) = \frac{1}{2} \exp \left[\sum_{i=1}^{n} X_{i} X_{j} \right], X \sim \{-1,1\}^{p}$

 $\mathbb{P}(X, \tilde{X}) = \frac{1}{7} \exp \left[\sum_{i=1}^{N} X_{i} X_{j} \right] \times \mathbb{I}(\tilde{X} = X)$

identical copy?

valid knockoff, but no power

How to generate knockoffs?

$$\mathbb{P}(X) = \frac{1}{Z} \exp\left(\sum_{i \sim j} X_i X_j\right), X \sim \{-1, 1\}^p$$

identical copy? valid knockoff, but no power

$$\mathbb{P}(X, \tilde{X}) = \frac{1}{Z} \exp\left(\sum_{i \sim j} X_i X_j\right) \times \mathbb{I}(\tilde{X} = X)$$

How to generate knockoffs?

$$\mathbb{P}(X) = \frac{1}{Z} \exp\left(\sum_{i \sim j} X_i X_j\right), X \sim \{-1, 1\}^p$$

$$\mathbb{P}(X, \tilde{X}) = \frac{1}{Z} \exp\left(\sum_{i \sim j} X_i X_j\right) \frac{1}{Z} \exp\left(\sum_{i \sim j} \tilde{X}_i \tilde{X}_j\right)$$