

Bayes Risk Lower Bounds

- Is $r^{(1)}$ enough to pick a very good $Q^{(2)}$?

• Show it is not if # of men is small and induct

• Bayes risk bounds:

- Framework used by Simchowitz, El Aloui, Recht '18 to obtain matrix-vector lower bounds for a related problem

• Θ be a parameter space and $\{\mathcal{P}_\theta : \theta \in \Theta\}$ be a set of distributions

- Suppose $\theta \sim \mathcal{W}$ and $x \sim \mathcal{P}_\theta$ and x is given to us

- Bayes risk lower bounds show how much we can say about θ

3

2

Bayes Risk Lower Bounds

- Is $r^{(1)}$ enough to pick a very good $Q^{(2)}$?
 - Show it is not if # of measurements is small and induct
- Bayes risk lower bounds:
 - Framework used by Simchowitz, El Aloui, Recht '18 to obtain matrix-vector lower bounds for a related problem
- Θ be a parameter space and $\{\mathcal{P}_\theta : \theta \in \Theta\}$ be a set of distributions
- Suppose $\theta \sim w$ and $x \sim \mathcal{P}_\theta$ and x is given to us
 - Bayes risk lower bounds show how much we can say about θ

Intuition about Bayes Risk