

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 also 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

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Intuition about Bayes Risk