

ProblemSets

1 ProblemSet1

Problem 1.1. *Let \mathcal{H} be a class of binary classifiers over a domain \mathcal{X} . Let \mathcal{D} be an unknown distribution over \mathcal{X} , and let f be the target hypothesis in \mathcal{H} . Fix $h \in \mathcal{H}$. Show that the expected value of $L_S(h)$ over the choice of S equals $L_{\mathcal{D},f}(h)$, namely*

$$E_{S \sim \mathcal{D}^m}[L_S(h)] = L_{\mathcal{D},f}(h)$$