RANDOM-LINEAR-CLASSIFIER($\mathcal{D}_n, k, d$)

1 **for** $j = 1$ **to** k

2 randomly sample $\left(\theta^{(j)}, \theta_0^{(j)}\right)$ from $(\mathbb{R}^d, \mathbb{R})$

3 $j^* = \arg\min_{j \in \{1,\ldots,k\}} \mathcal{E}_n\left(\theta^{(j)}, \theta_0^{(j)}\right)$

4 **return** $\left(\theta^{(j^*)}, \theta_0^{(j^*)}\right)$