

Wlog,  $\|d\|_2 = 1$ . We take a discretization  $\mathcal{D}_2$  of the unit hypersphere,  $S^n$ , such that for every point on the hypersphere,  $\exists d \in \mathcal{D}_2$  that is within  $\delta$  of the arbitrarily chosen point.

Call such a subset  $\mathcal{D}_2$  of the hypersphere a  $\delta$ -net of the  $n$ -hypersphere.