Select an address with probability 1/√n Run Amplitude Amplification Save the training set in QRAM on the nearest states |0> |0> Measure Address Diffuser the states |0> QRAM^T QRAM |0> |0> Train set |0> **SWAP** $|0\rangle$ Test Encoding Encoding^T Test set Test data Test data $|0\rangle$ Swap Test $|0\rangle$ Oracle Flag Encode an element Similarity test of the test set Separate nearer states from other states in QRAM