

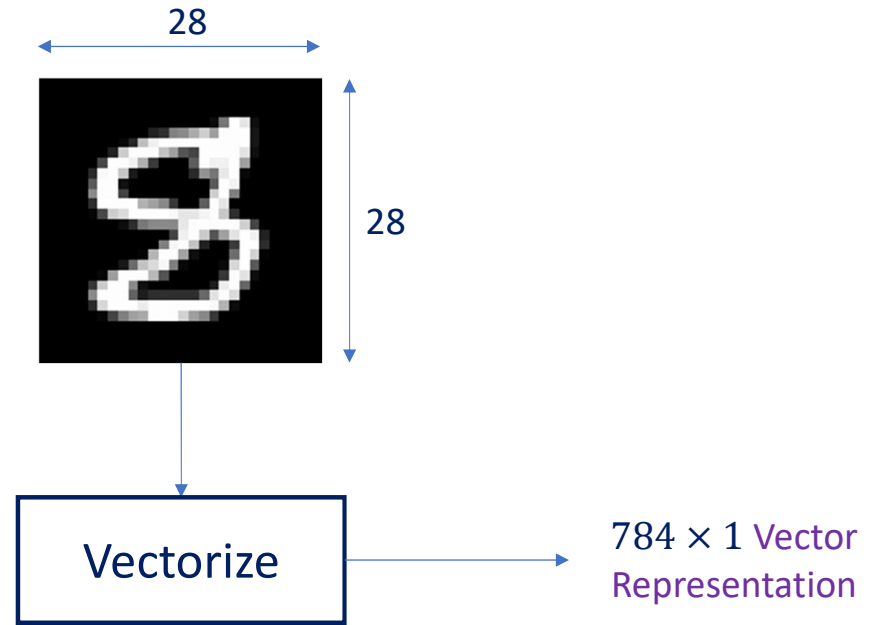
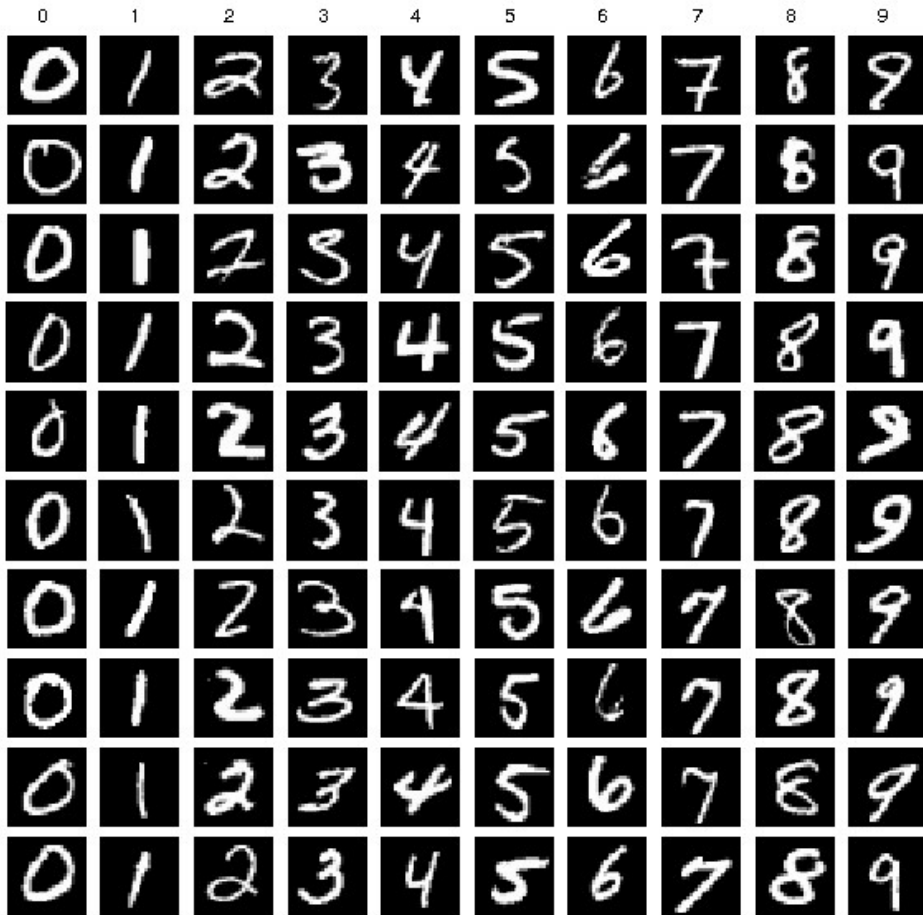
# EE527: Programming Assignments



## Image Search: PCA & K-D Tree

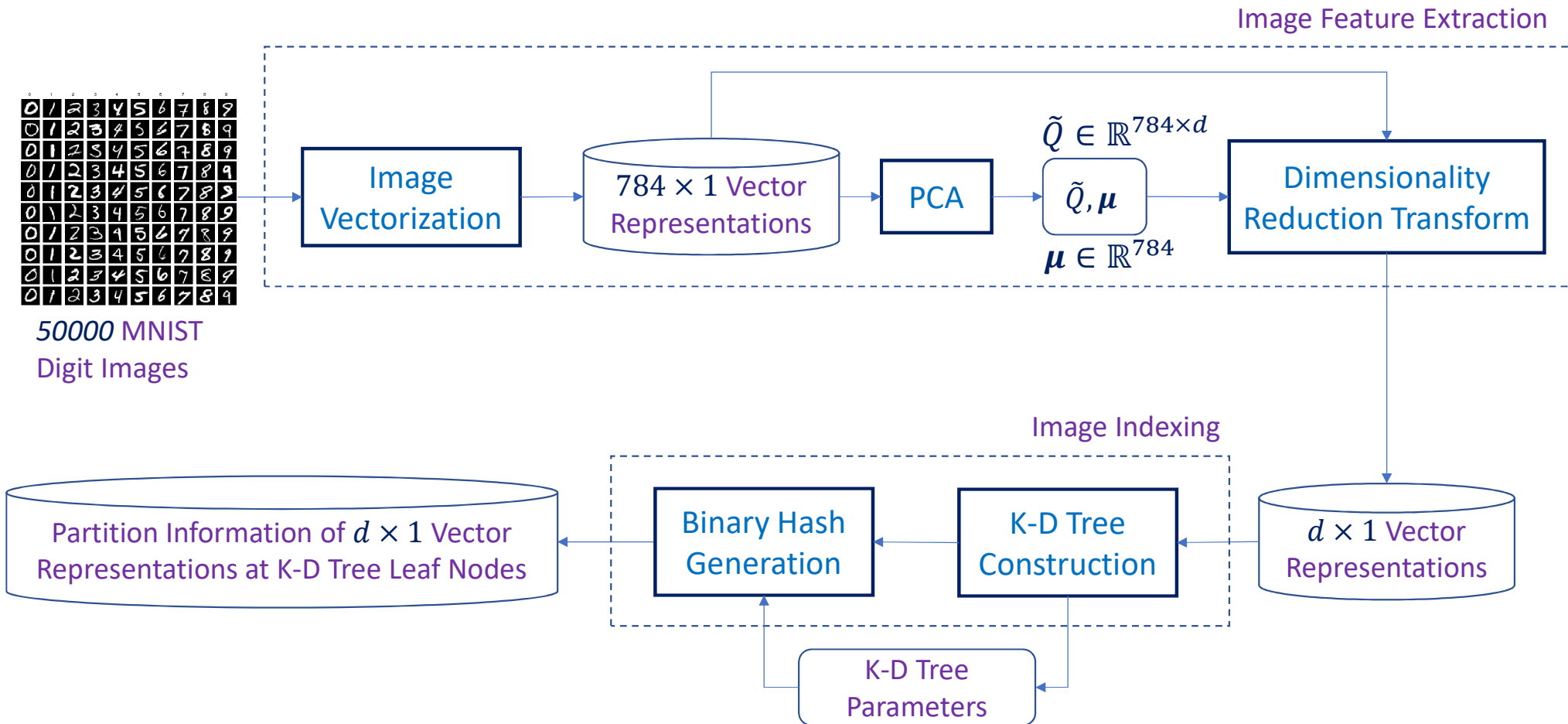
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# The MNIST Dataset

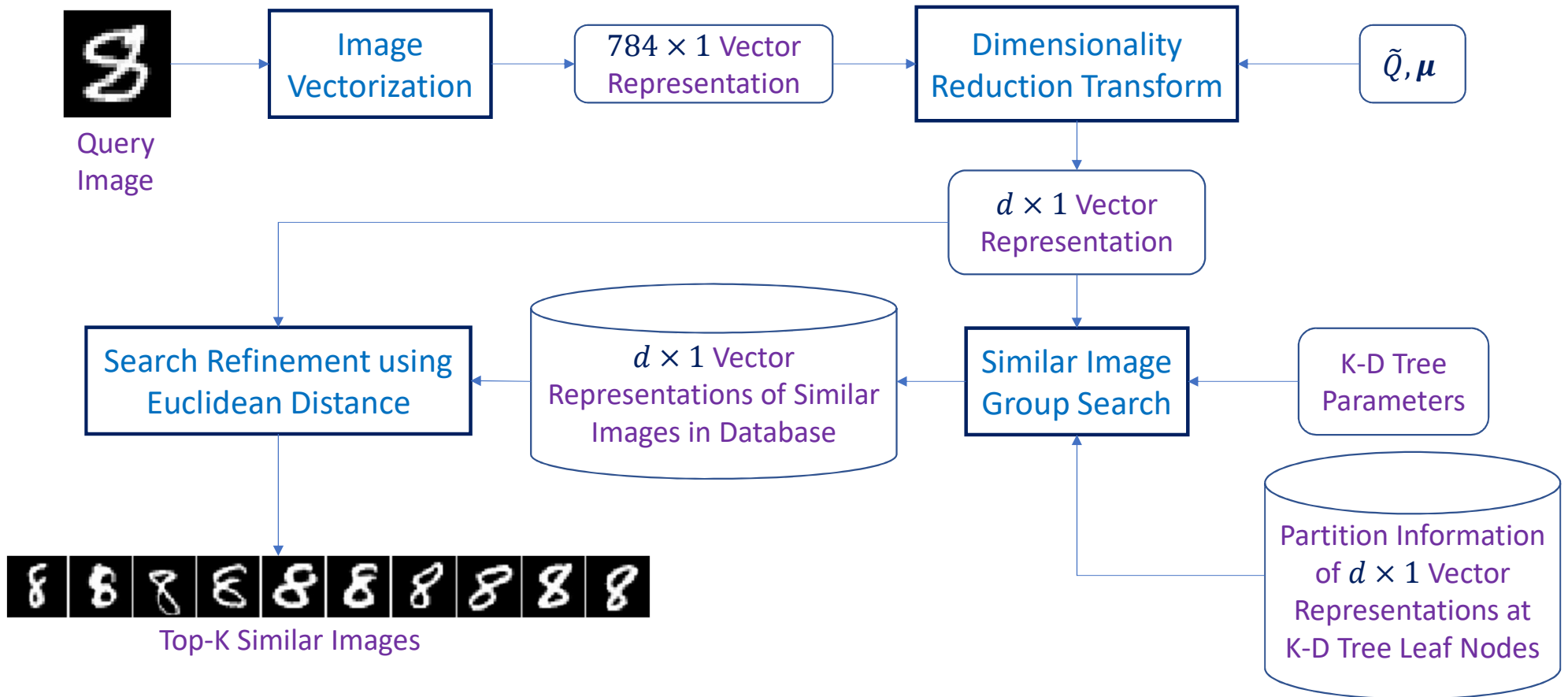


Access the Dataset from <http://yann.lecun.com/exdb/mnist/>

# PCA & K-D Tree



# Image Search



# Performance Evaluation

$$\text{Search Precision} = \frac{\text{Number of Responses Matching Query Image}}{\text{Query Response Size (K for Top-K Responses)}}$$

Experiment with varying values of target feature subspace dimension  $d$ , K-D Tree maximum depth  $D_{max}$ , and leaf node data number threshold  $m$ . Report *Search Precision* for different cases.



# Thank You