

One major disadvantage of KNN is that its time complexity for both the training and predicting are backwards from what we would want in a practical setting. KNN pay no cost at training time since its is only storing the data thus we have $O(1)$ for training. The predict time however requires us to compare our new instance to every example in the training which we will state as $O(N)$. In practice we prefer the alternate extreme. We prefer models that are very expensive to train but are quick when it comes to predicting new instances.

Another disadvantage of knn is distance metrics like L2 similarity are rarely applicable to practical image classification. One image can be distorted in manys ways to produce images that clearly appear different visually but knn reports as having the same L2 distance.