

Triplet loss

© 2019 Philipp Krähenbühl and Chao-Yuan Wu

Embedding learning

- Distances

- Absolute distances
don't matter at
inference



- KNN cares about
relative distance



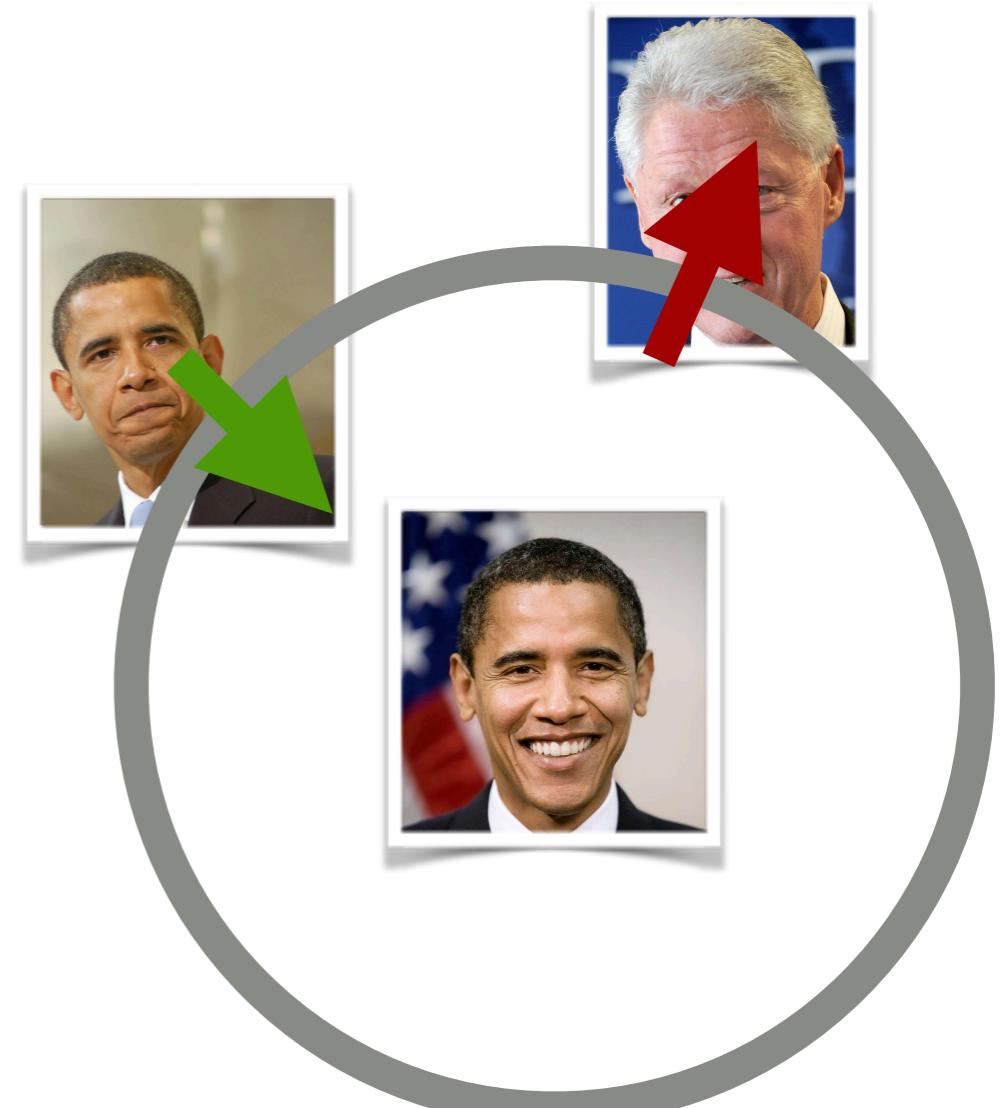
Triplet loss

- Objective

$$\max(0, \|f_i - f_j\| - \|f_j - f_k\| + \alpha)$$

- Positive pair i, j

- Negative pair i, k



- Learning a distance metric from relative comparisons, Schultz and Joachims, NIPS 2003
- Distance metric learning for large margin nearest neighbor classification, Weinberger and Saul, JMLR 2009

Triplet loss

- Only relative distance
 - Can deform embedding space
- Harder to train
 - All triplets vs pairs