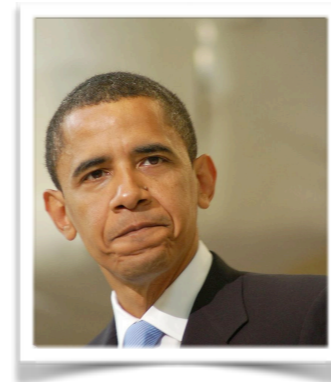


Triplet loss

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Embedding learning

- Distances
 - Absolute distances don't matter at inference
 - KNN cares about relative distance



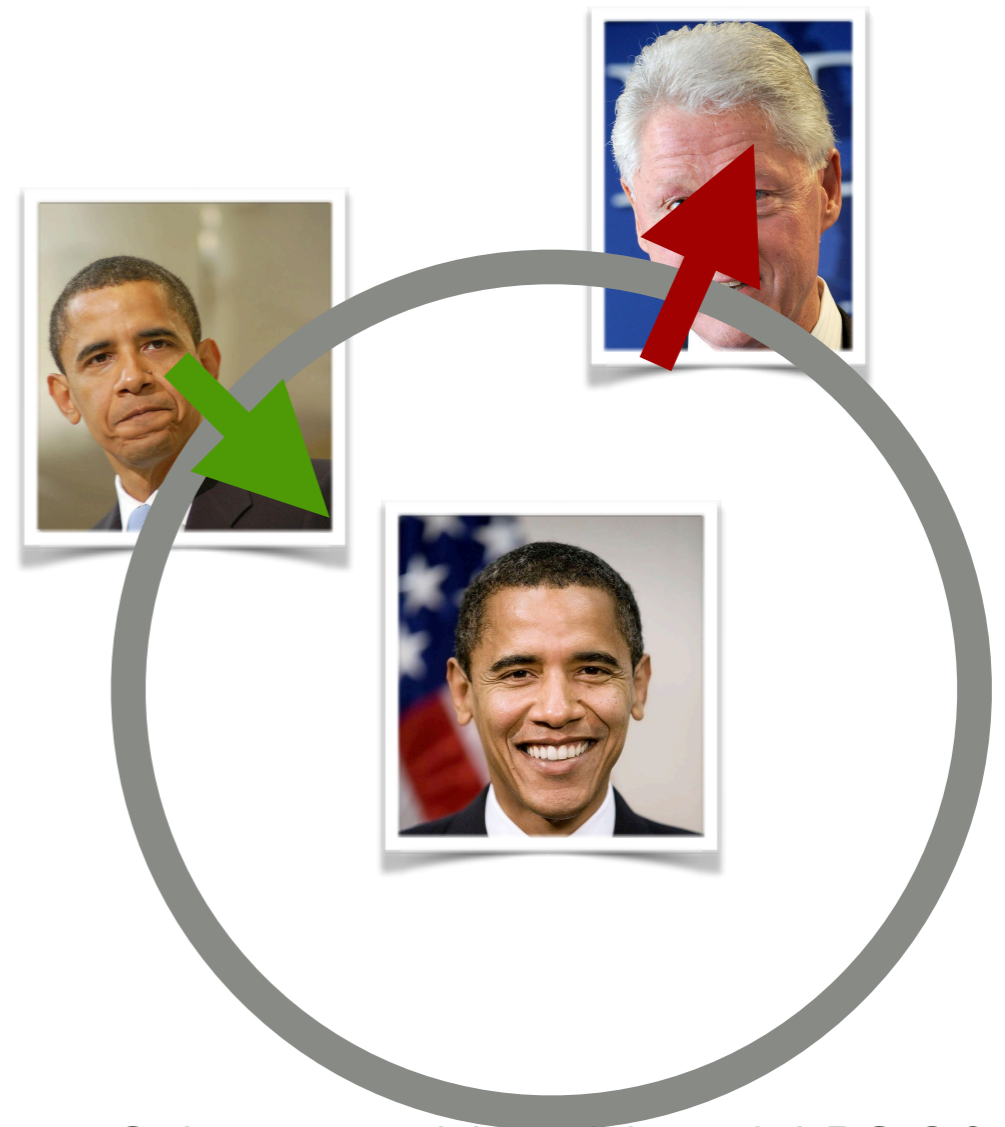
Triplet loss

- 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