

## Contrastive Loss

Learning Similarity Metrics in Embedding Space

### Core Concept

Learns meaningful representations in embedding space by training on sample pairs (similar/dissimilar)



#### Similar Pairs

Place similar samples close together in embedding space

Minimize Distance



#### Dissimilar Pairs

Place dissimilar samples apart by a margin

Maintain Margin

### Training Approach

Can learn meaningful representations without explicit labels

### Applications

- 1 Face Recognition
- 2 Signature Verification
- 3 Image Retrieval



### Foundation for Siamese Networks