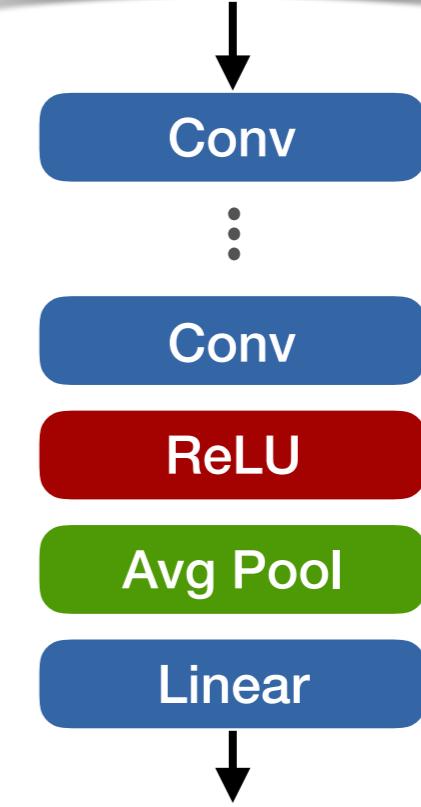


Embedding learning

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Expanding label set

- Standard classification requires fixed label set

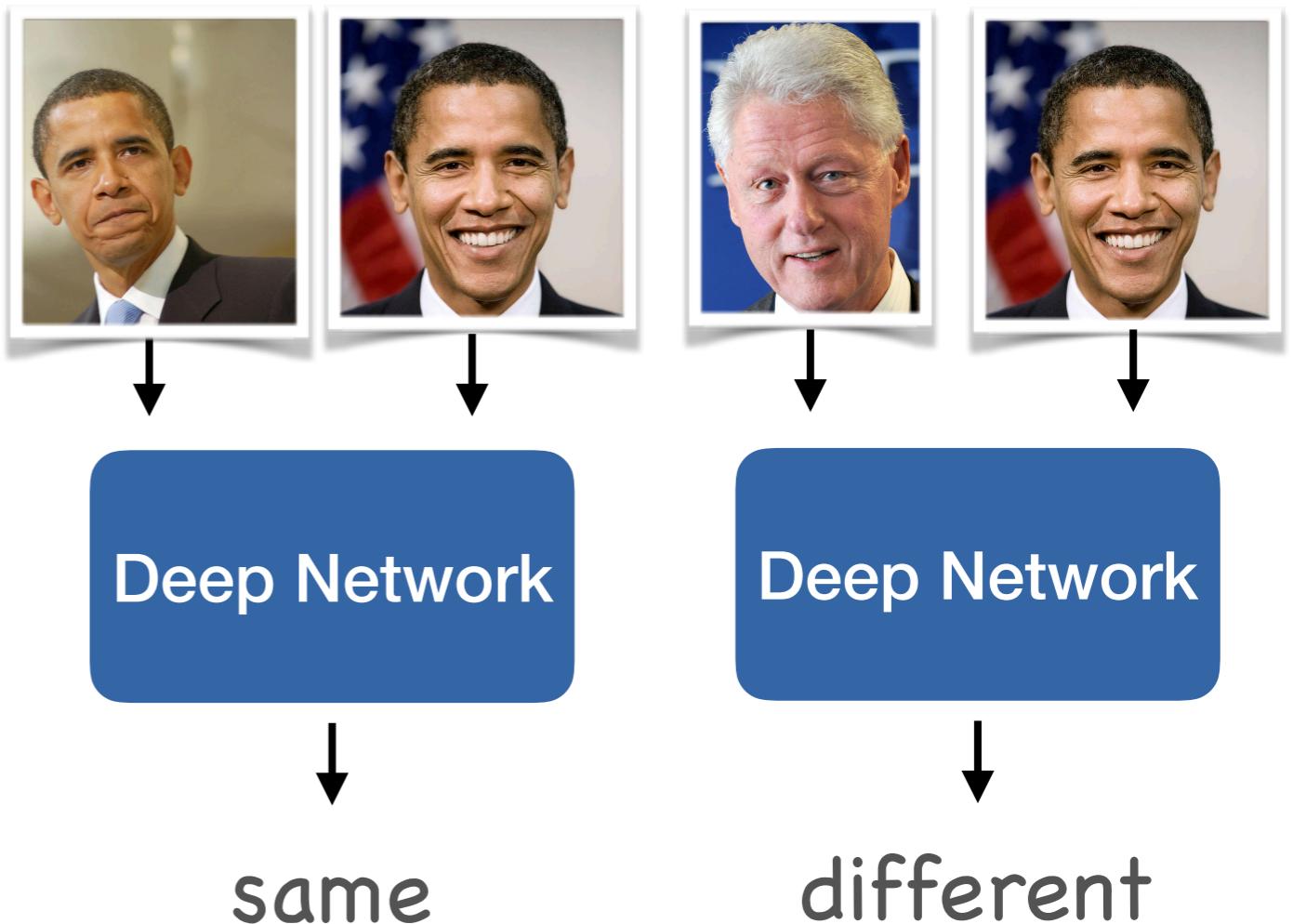


dog? cat?

How do we avoid re-training?

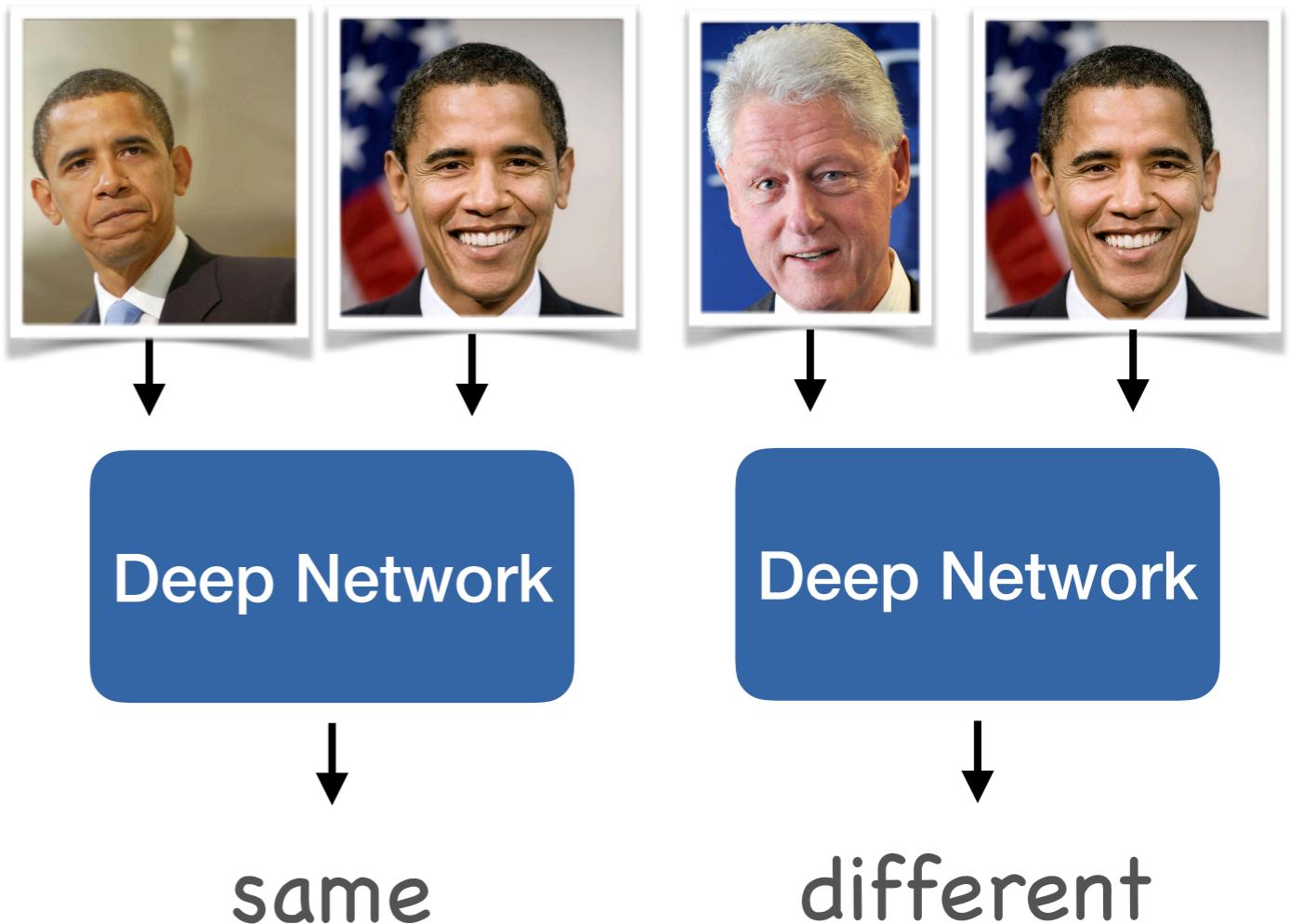
- Switch classification

- same person or
not?



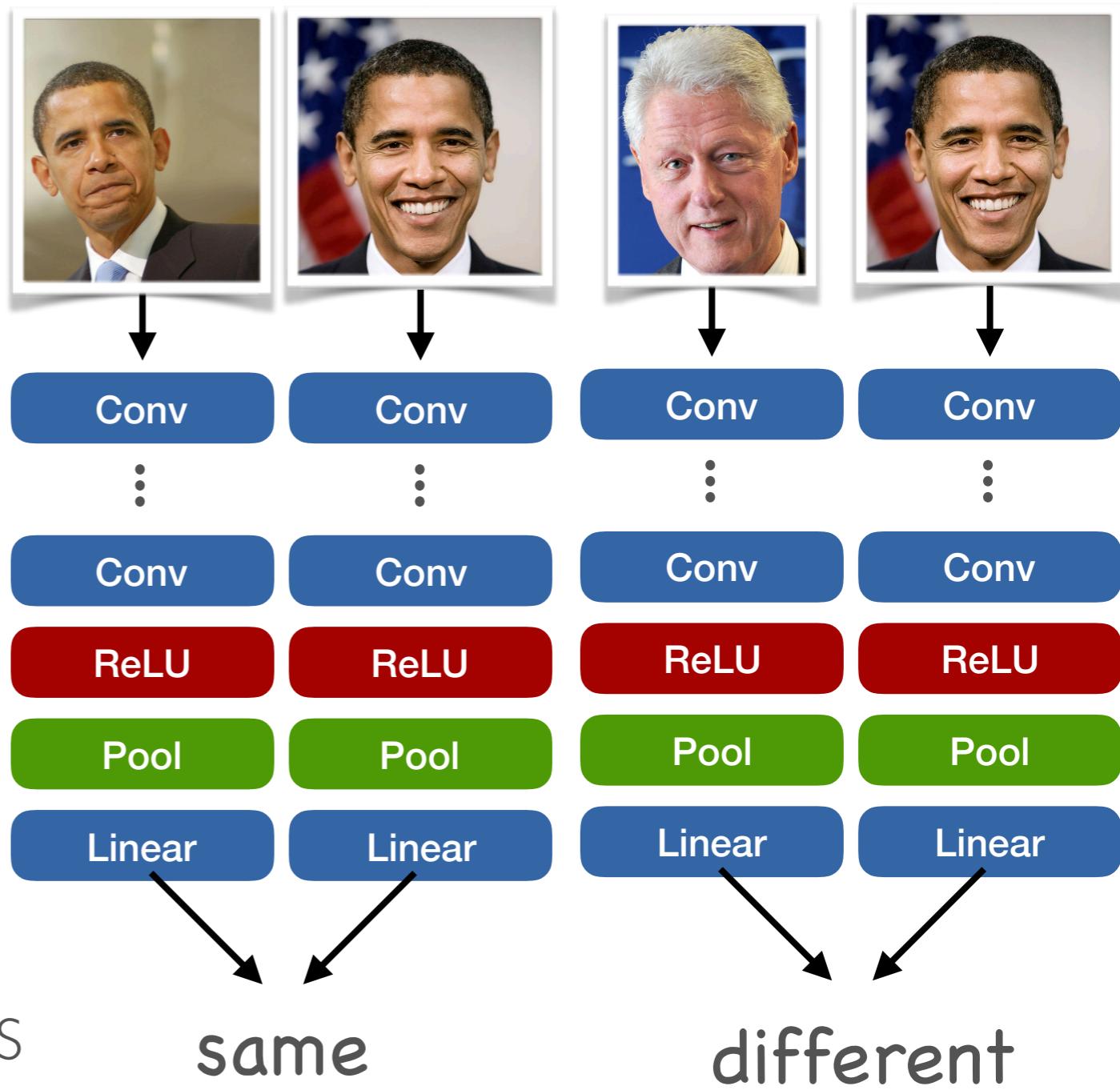
Learning similarity - issues

- Very slow inference
 - Forward pass for each pair



Solution – Siamese networks

- Embedding network
 - One per image
- Distance metric
 - E.g. only dot product
 - Run on all pairs
 - or KNN search



Signature Verification using a Siamese Time
Delay Neural Network, Bromley et al., NIPS
1994

How do we train siamese networks?

