


FACE RECOGNITION

• Face verification vs Face recognition

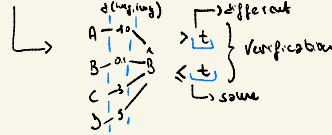
input img \leftrightarrow Name / ID

DB with K people + input img \leftrightarrow ID

• One-shot learning: recognize a person given just one single img (or: learning from one example to recognize the person again)

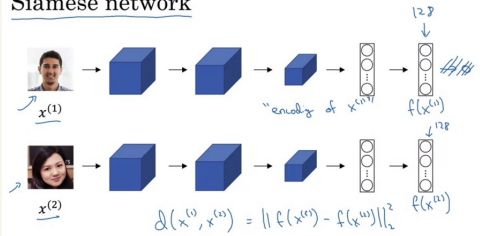
• $d(\text{img}_1, \text{img}_2)$ = degree of difference between imgs

Similarity function
(we learn this function)

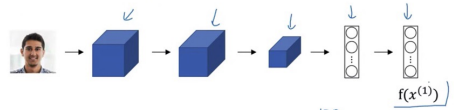


• implemented through Siamese Network:

Siamese network



Goal of learning



Parameters of NN define an encoding $f(x^{(i)})$

Learn parameters so that:

If $x^{(i)}, x^{(j)}$ are the same person, $\|f(x^{(i)}) - f(x^{(j)})\|^2$ is small.

If $x^{(i)}, x^{(j)}$ are different persons, $\|f(x^{(i)}) - f(x^{(j)})\|^2$ is large.