deeplearning.ai

Face recognition

Siamese network

Siamese network

128

"encoding of $x^{(1)}$"

$f(x^{(1)})$

128

$x^{(1)}$

$x^{(2)}$

$f(x^{(2)})$

$$d(x^{(1)}, x^{(2)}) = \| f(x^{(1)}) - f(x^{(2)}) \|_2^2$$
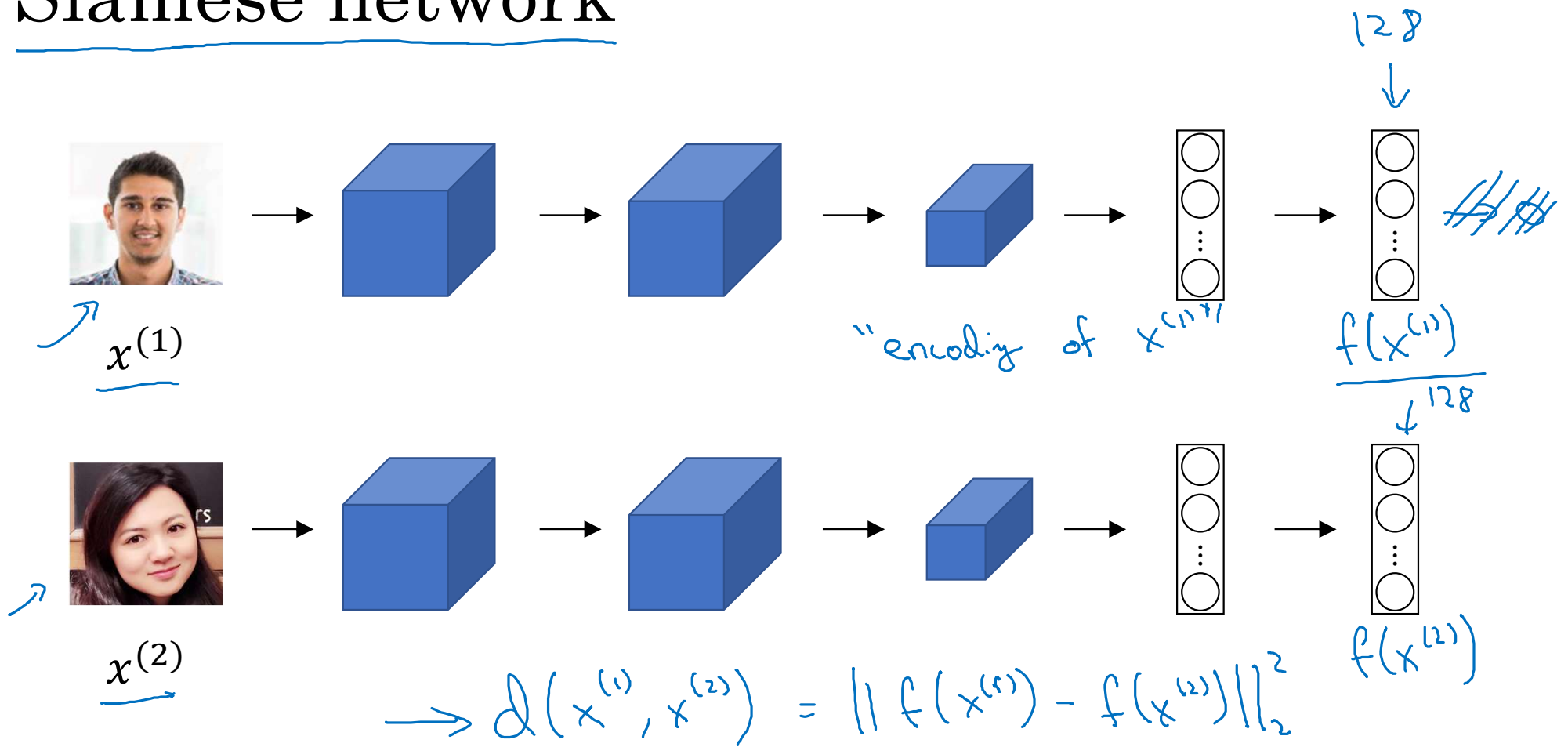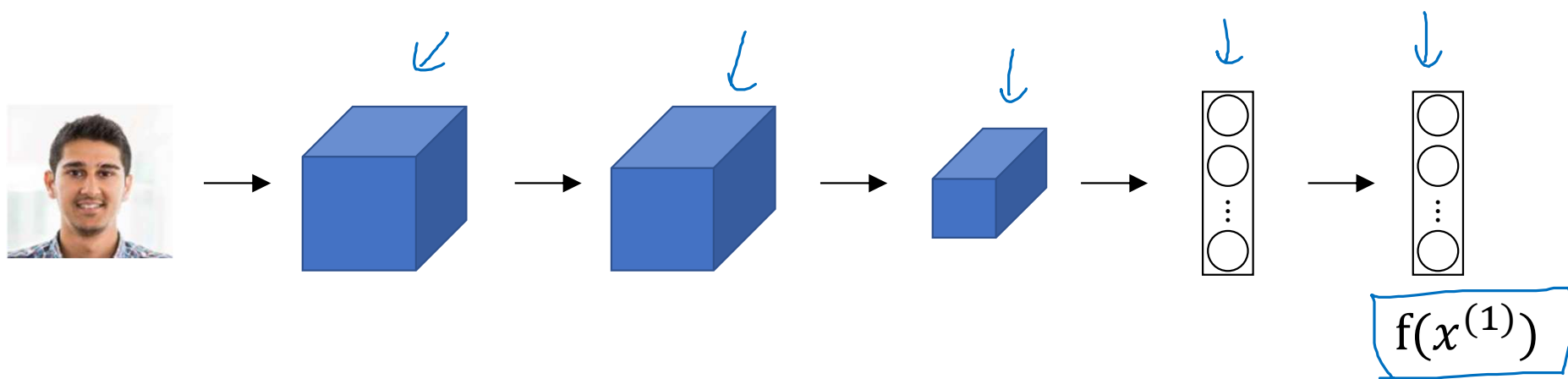
[Taigman et. al., 2014. DeepFace closing the gap to human level performance]

Andrew Ng

Goal of learning

Parameters of NN define an encoding $f(x^{(i)})$ — 128

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.

Andrew Ng