

Face recognition

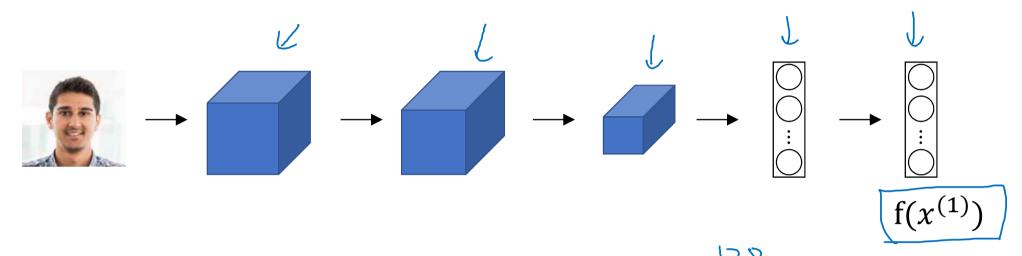
Siamese network

Siamese network

$$\frac{1}{x^{(1)}} \rightarrow \frac{1}{x^{(2)}} \rightarrow \frac{1}{x^{(2)}$$

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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.