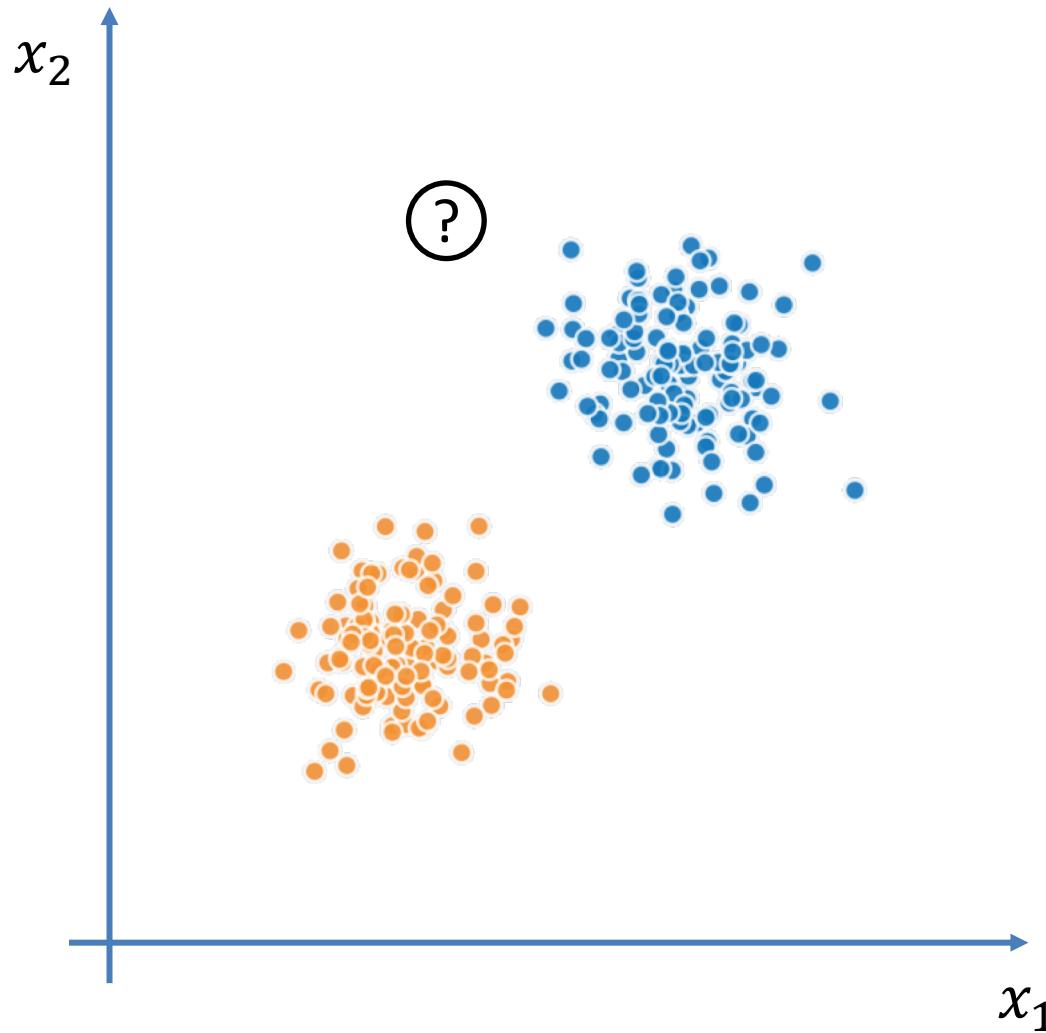


Introduction to Deep Learning: welcome!

- This course provides you with basic building blocks you will further use throughout our specialization.
- This is an advanced course.
- So we assume the basic knowledge of:
 - Machine learning
 - Probability theory
 - Linear algebra and calculus
 - Python programming

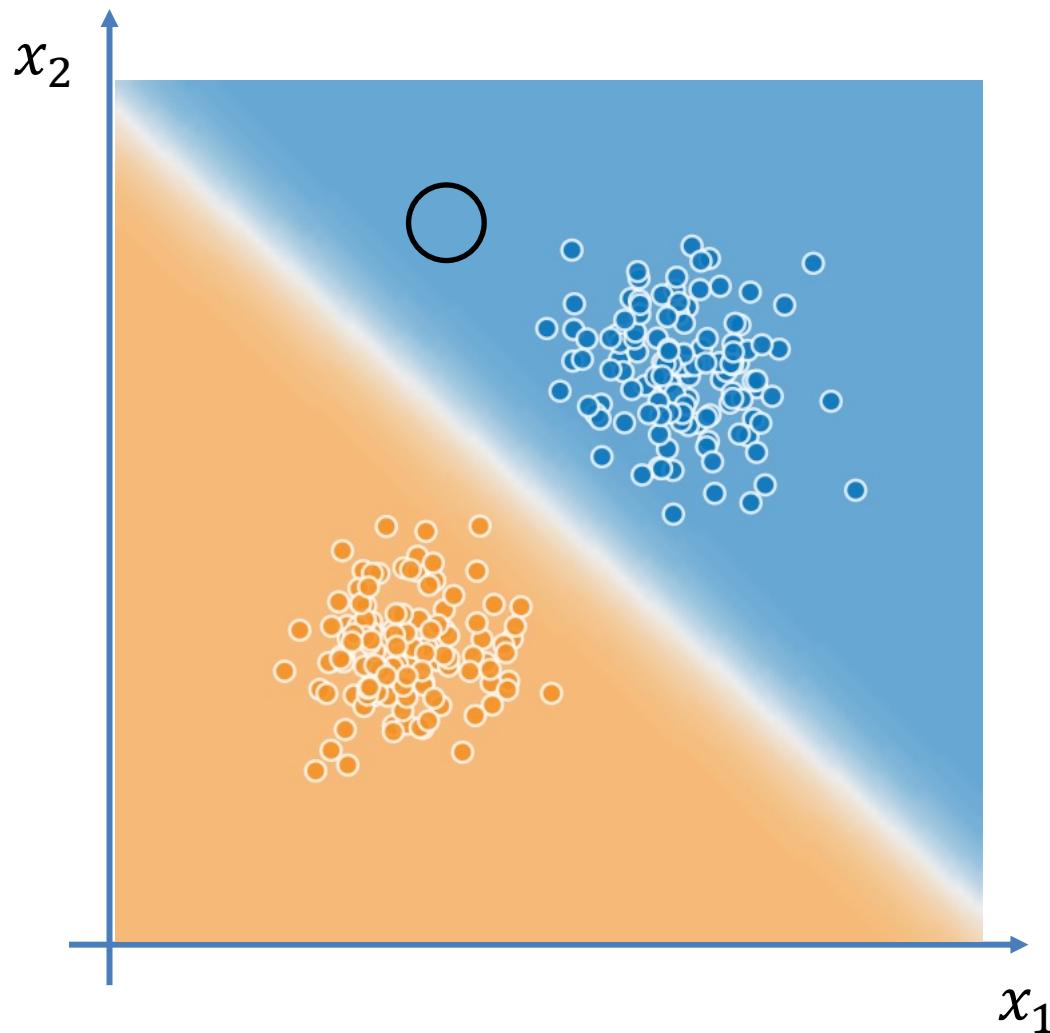
Week 1: we start with linear models

- How to find a color of a new point?



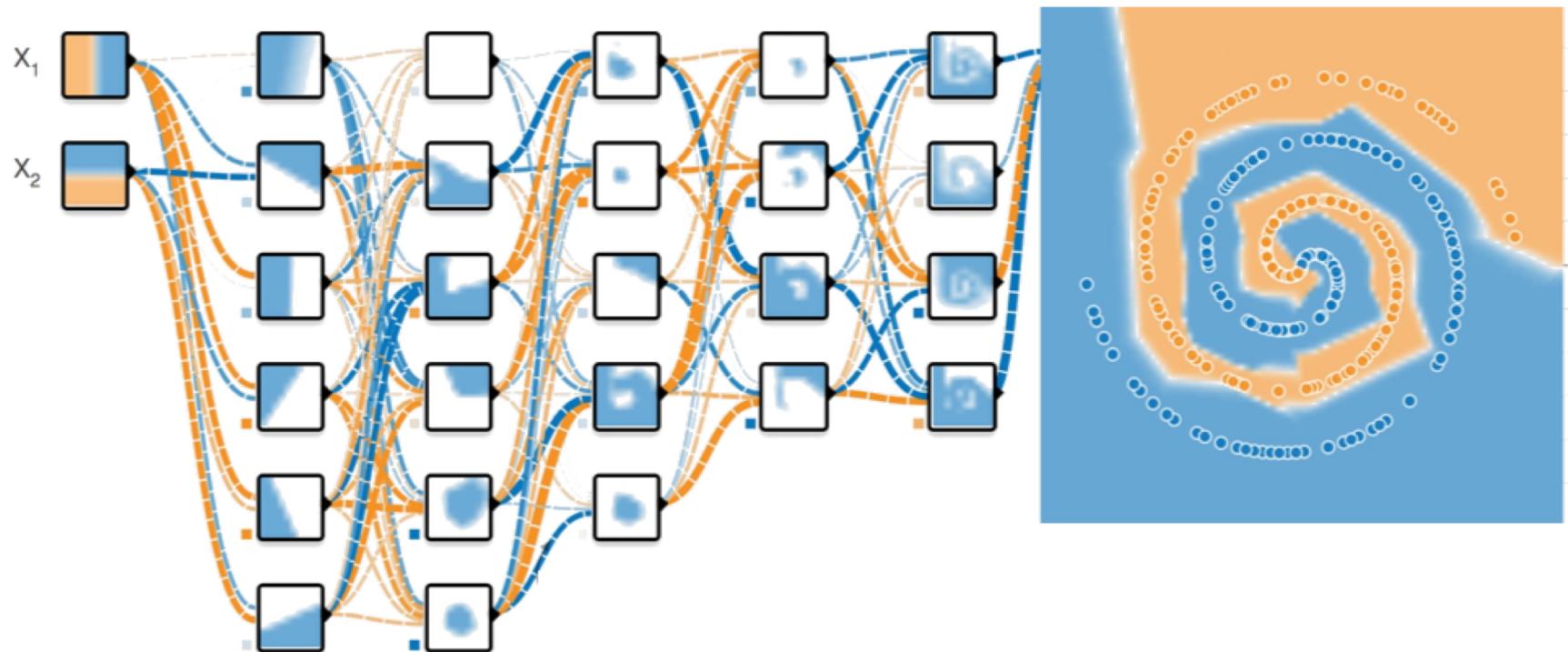
Week 1: we start with linear models

- Find a separating line!



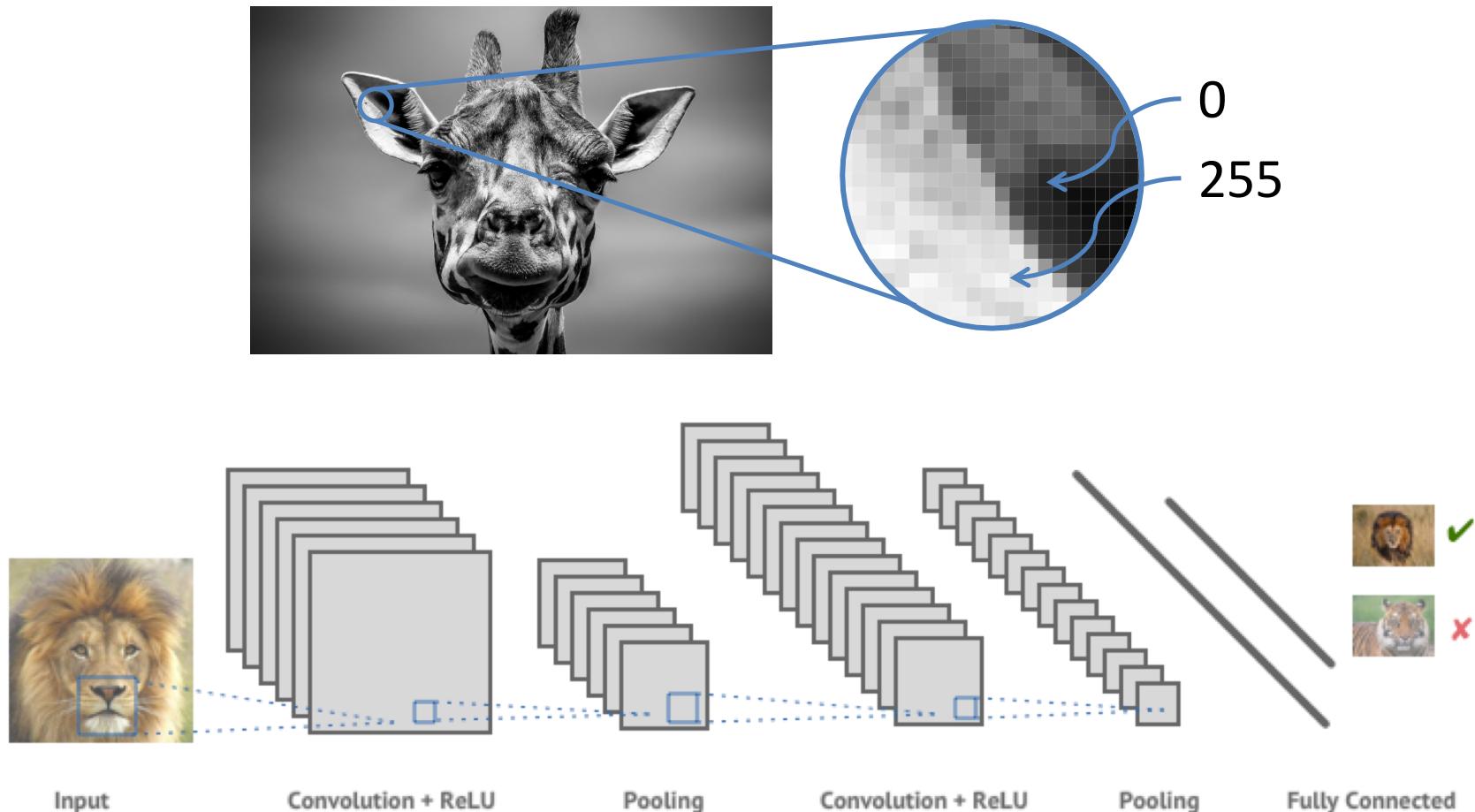
Week 2: we train the simplest neural network

- It's called Multi-Layer Perceptron



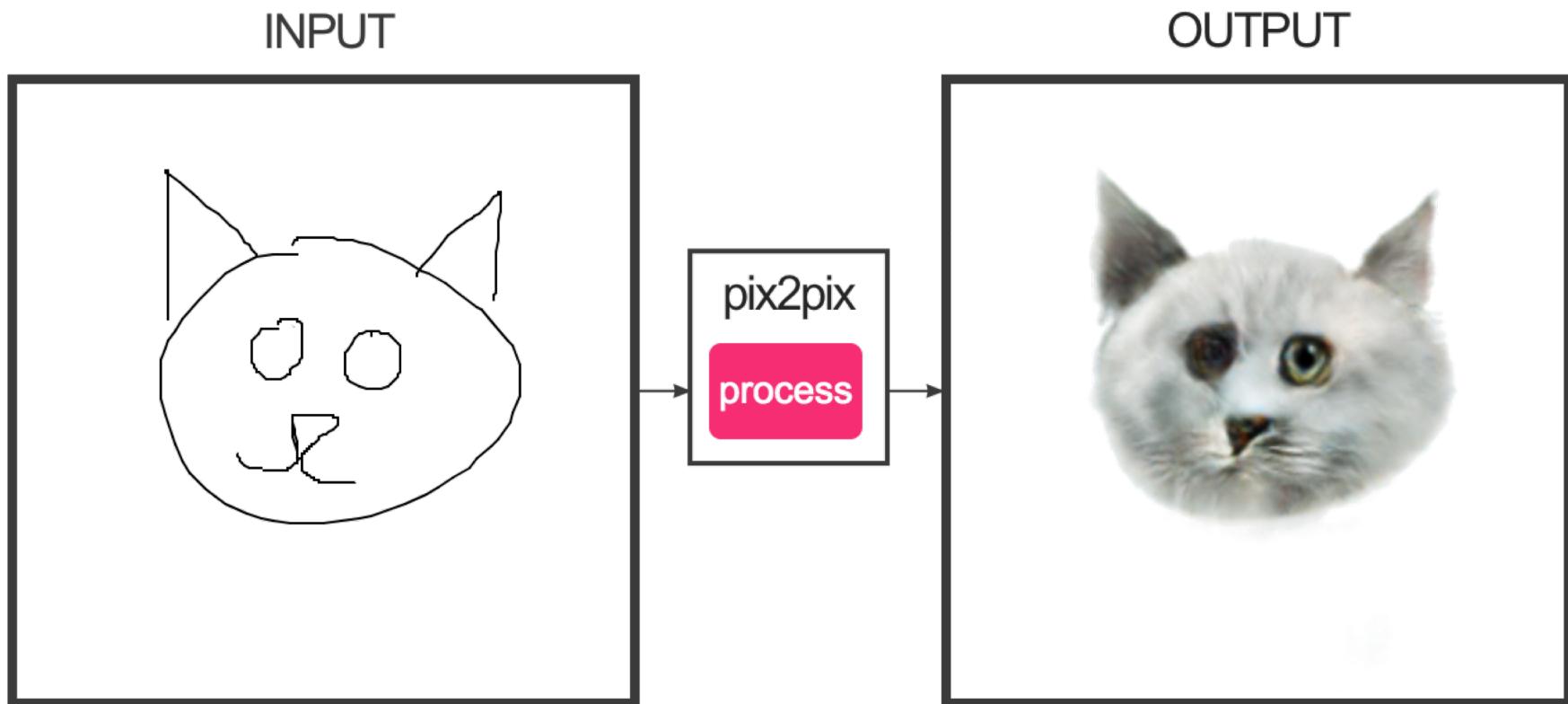
Week 3: it's time to feed images to the network

- We will cover Convolutional Neural Networks (CNN) for that



CNNs work like magic

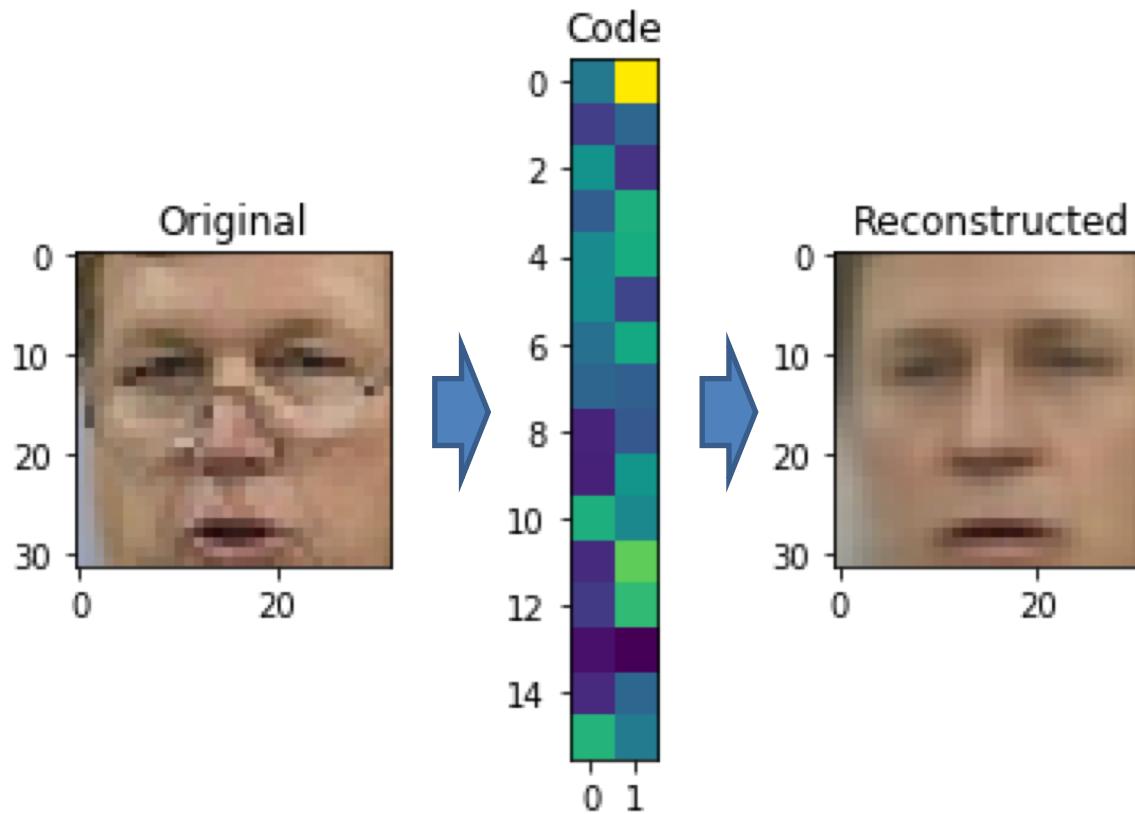
- For example, it can turn a sketch into an image:



<https://affinelayer.com/pixsrv/>

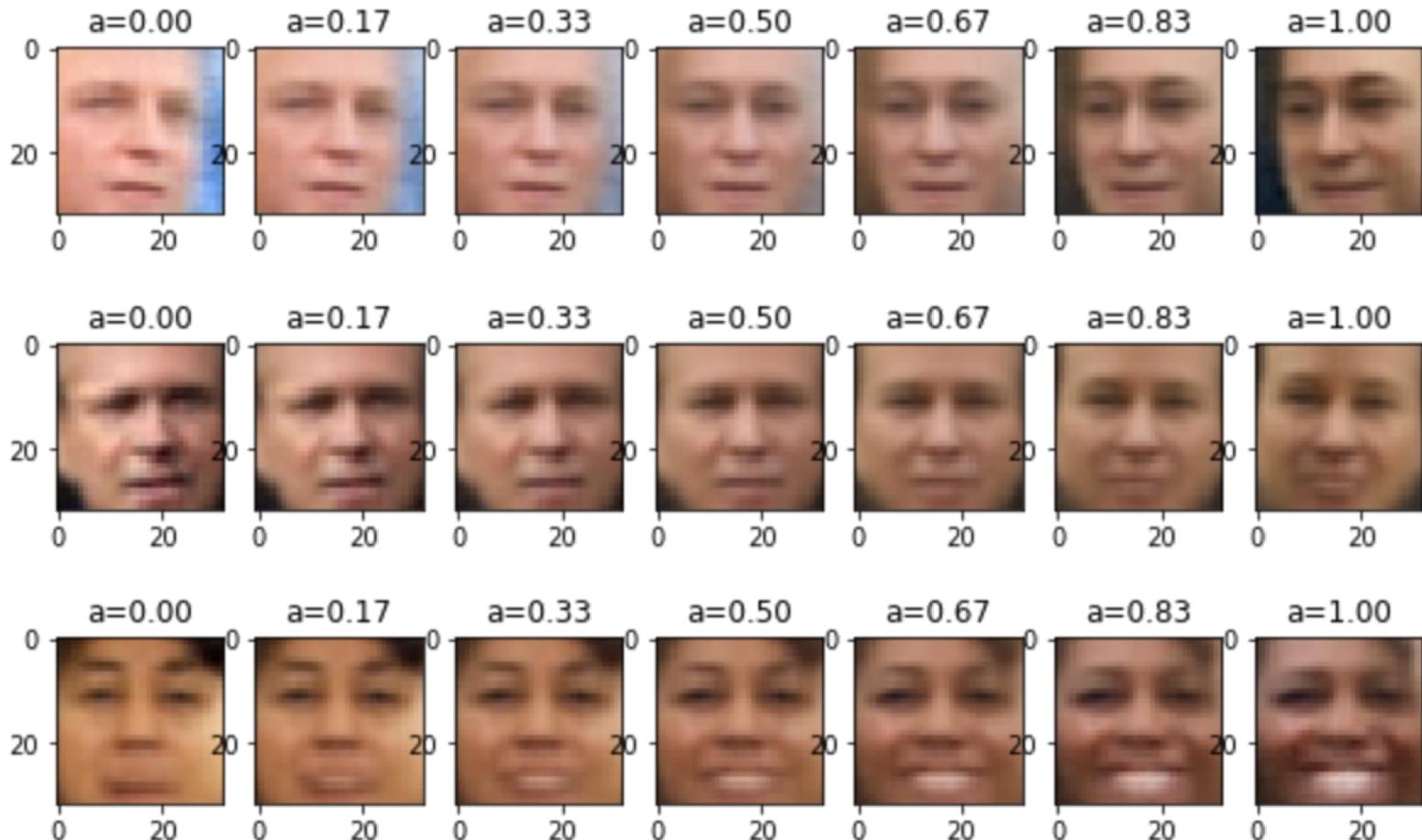
Week 4: working with neural representations

- We need to understand that a NN can convert an object to a small dense vector, which encodes the semantics:



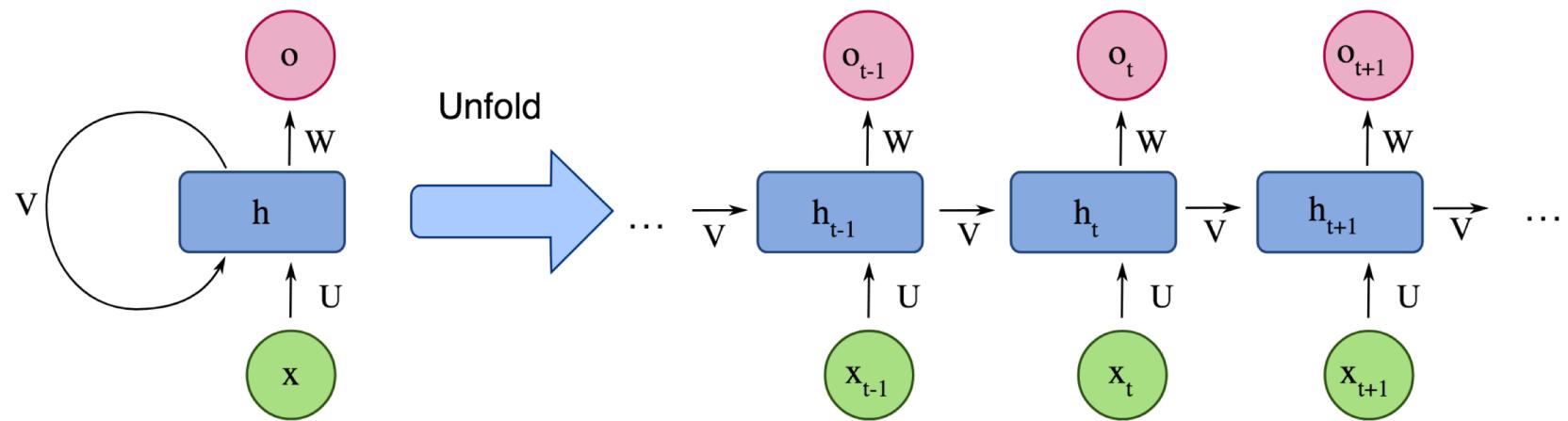
Week 4: working with neural representations

- You can play around with those vectors to morph images:



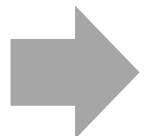
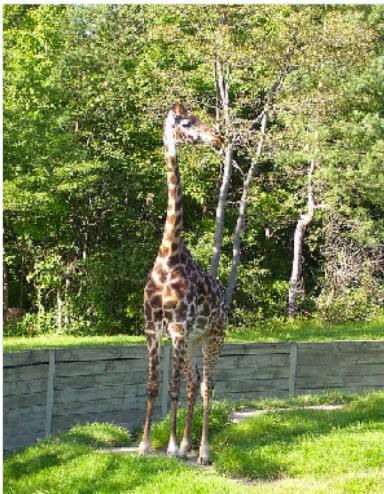
Week 5: we can also feed text!

- For that we will need Recurrent Neural Networks (RNN)
- You will learn to generate human names

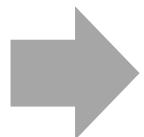


Week 6: mission with the boss

- You will train an image captioning model (image → text)!



a giraffe standing in a field
with trees in the background



a young child is playing
with a **wii remote**

See you soon

- I hope you'll love our videos and programming assignments
- Good luck!