Training a Model

Inputs and Outputs
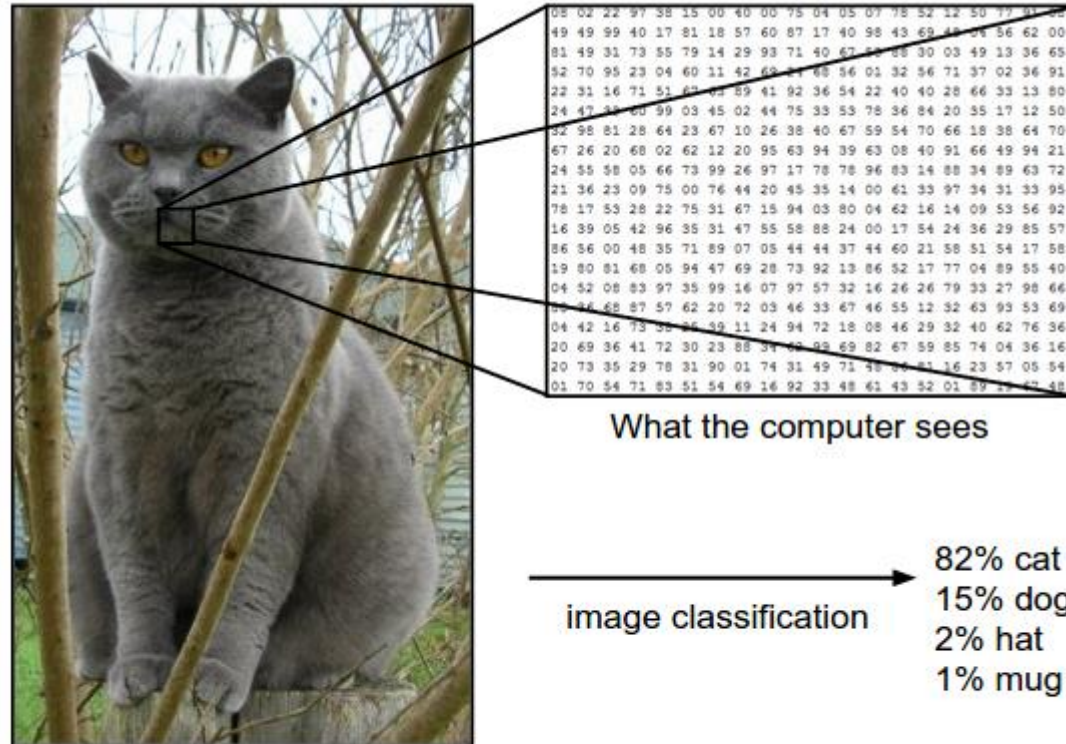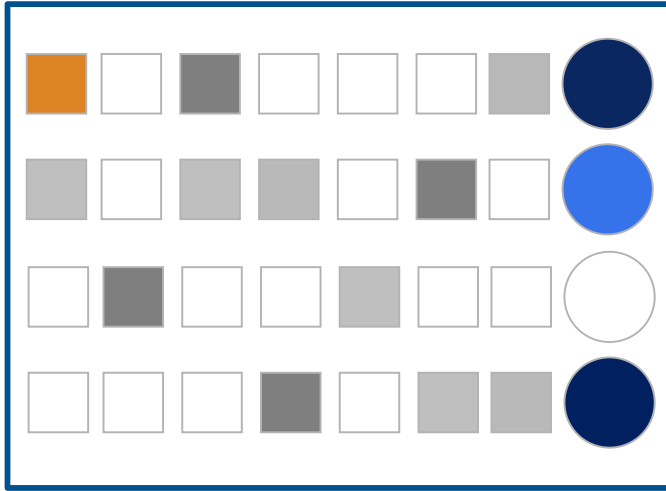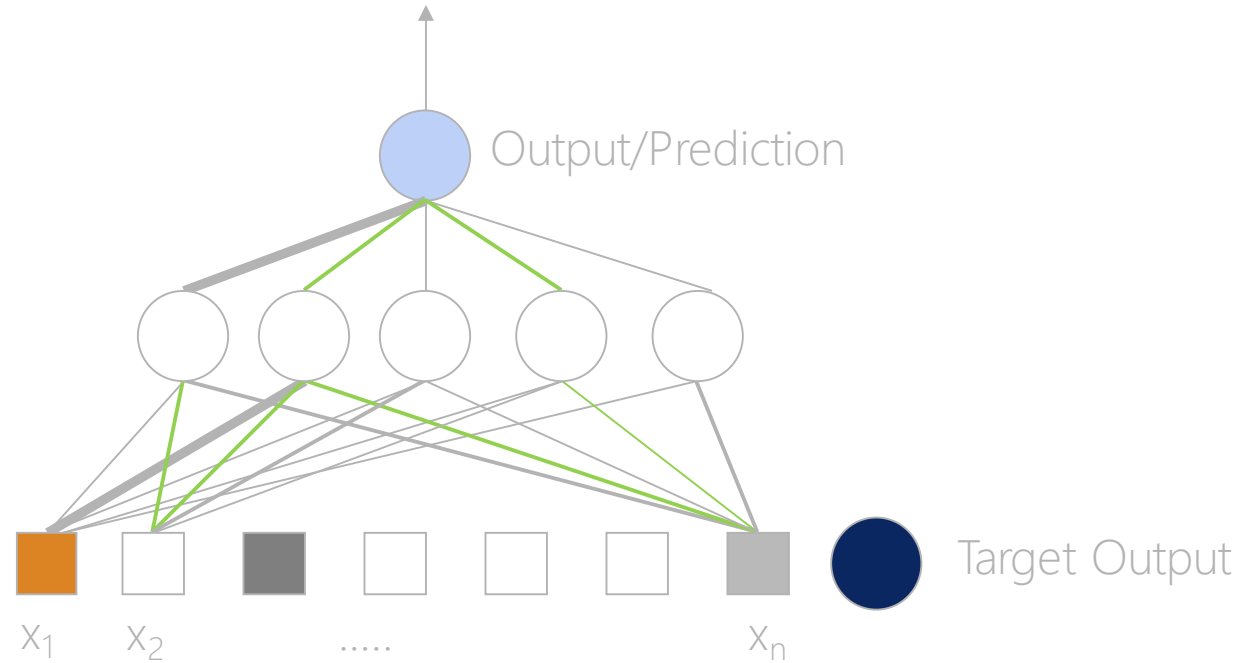

What the computer sees

image classification → 82% cat
15% dog
2% hat
1% mug

Image from the Stanford CS231 Course

Learning Principle

Dataset

Output/Prediction

x_1 x_2 ..... x_n

Target Output

Error: ⬤ – ⬤ = 5

Learning Principle

Output/Prediction

Target Output

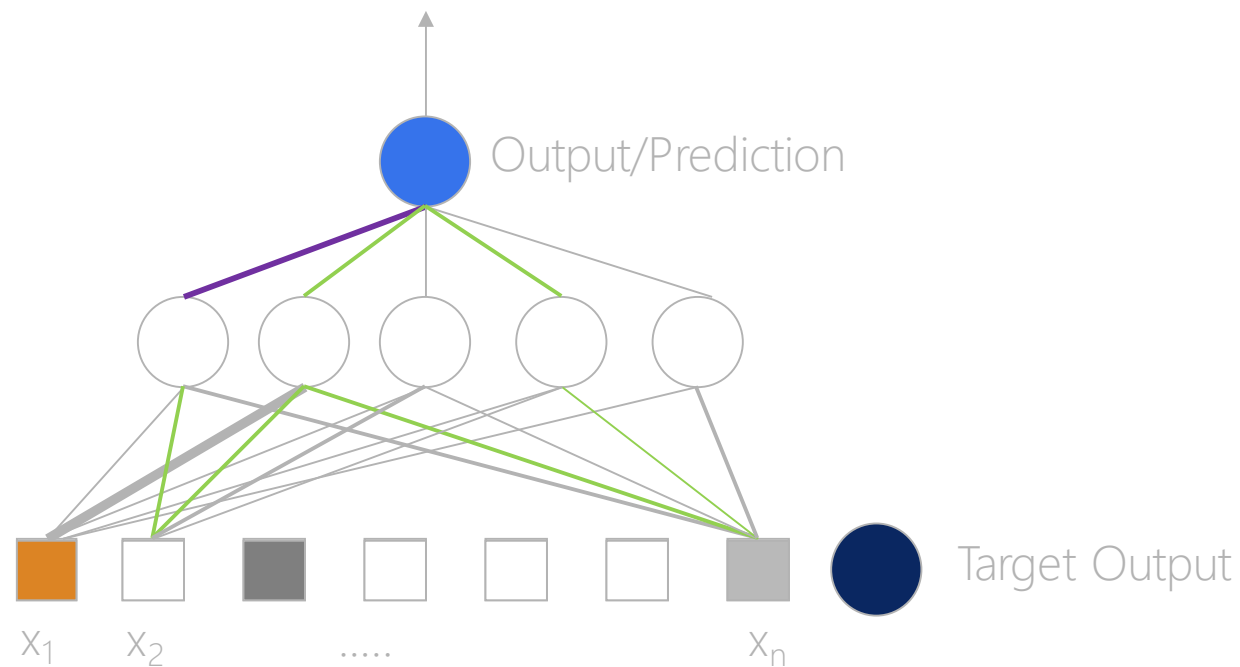x_1 x_2 ..... x_n
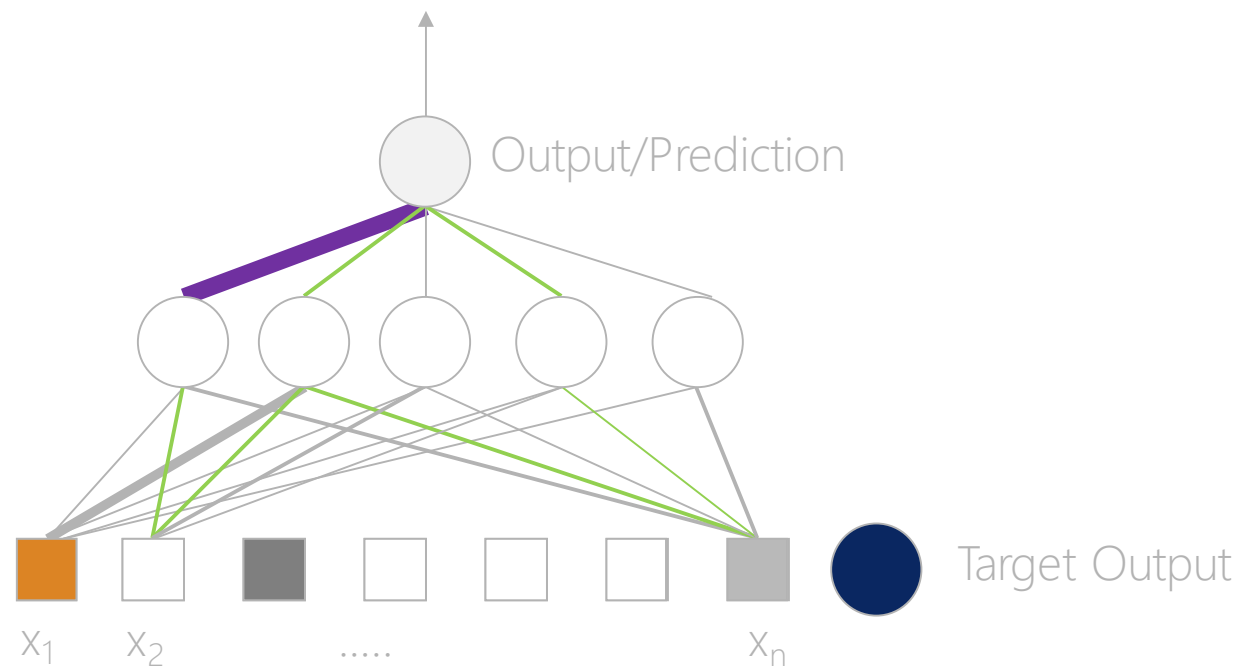
Error: ◯ − ● = 15

Learning Principle

Output/Prediction

Target Output

x_1 x_2 ..... x_n

Error: ⬤ – ⬤ = 2.5

DEEP LEARNING APPROACH - TRAINING

Forward propagation

Backward propagation

Input
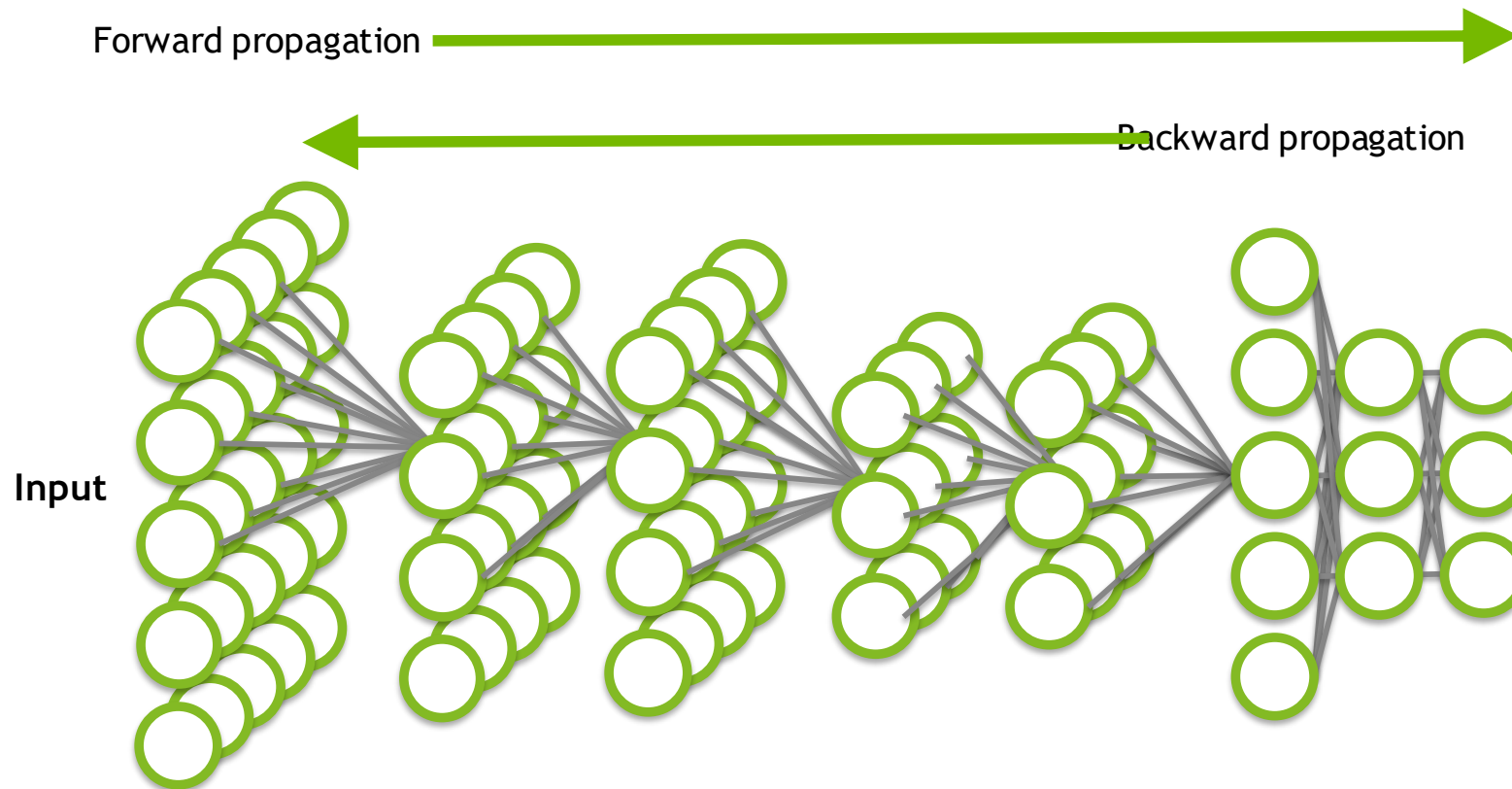
Process
- Forward propagation yields an inferred label for each training image

- Loss function used to calculate difference between known label and predicted label for each image

- Weights are adjusted during backward propagation

- Repeat the process