Face
Emotion

What is the face emotion?

Where you can use face emotion?

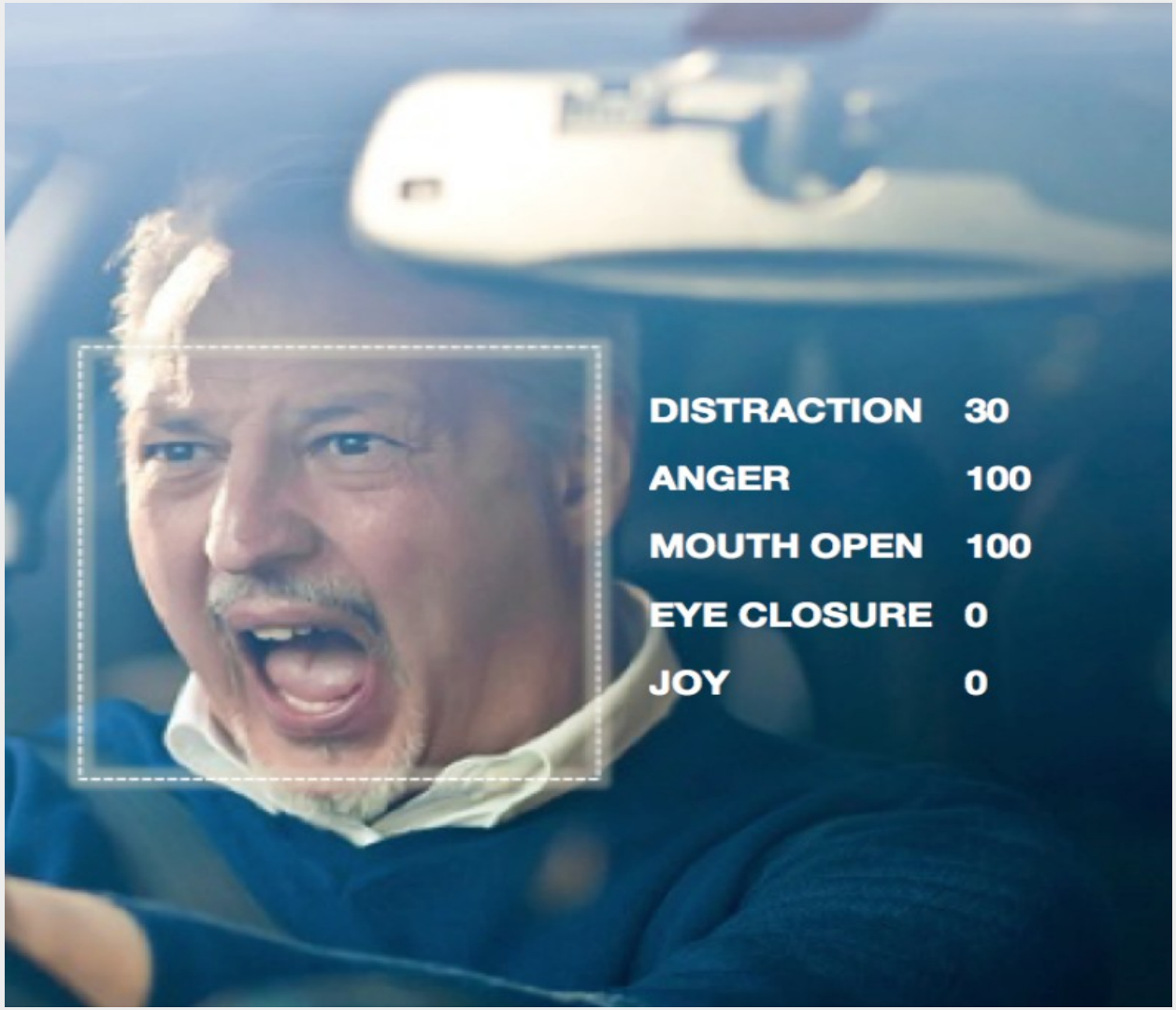
- Self Driving
- Uber
- Caream
- Race
- Mall
- Bank
- Schools

Uber

Uber

Real life problem

Real life problem

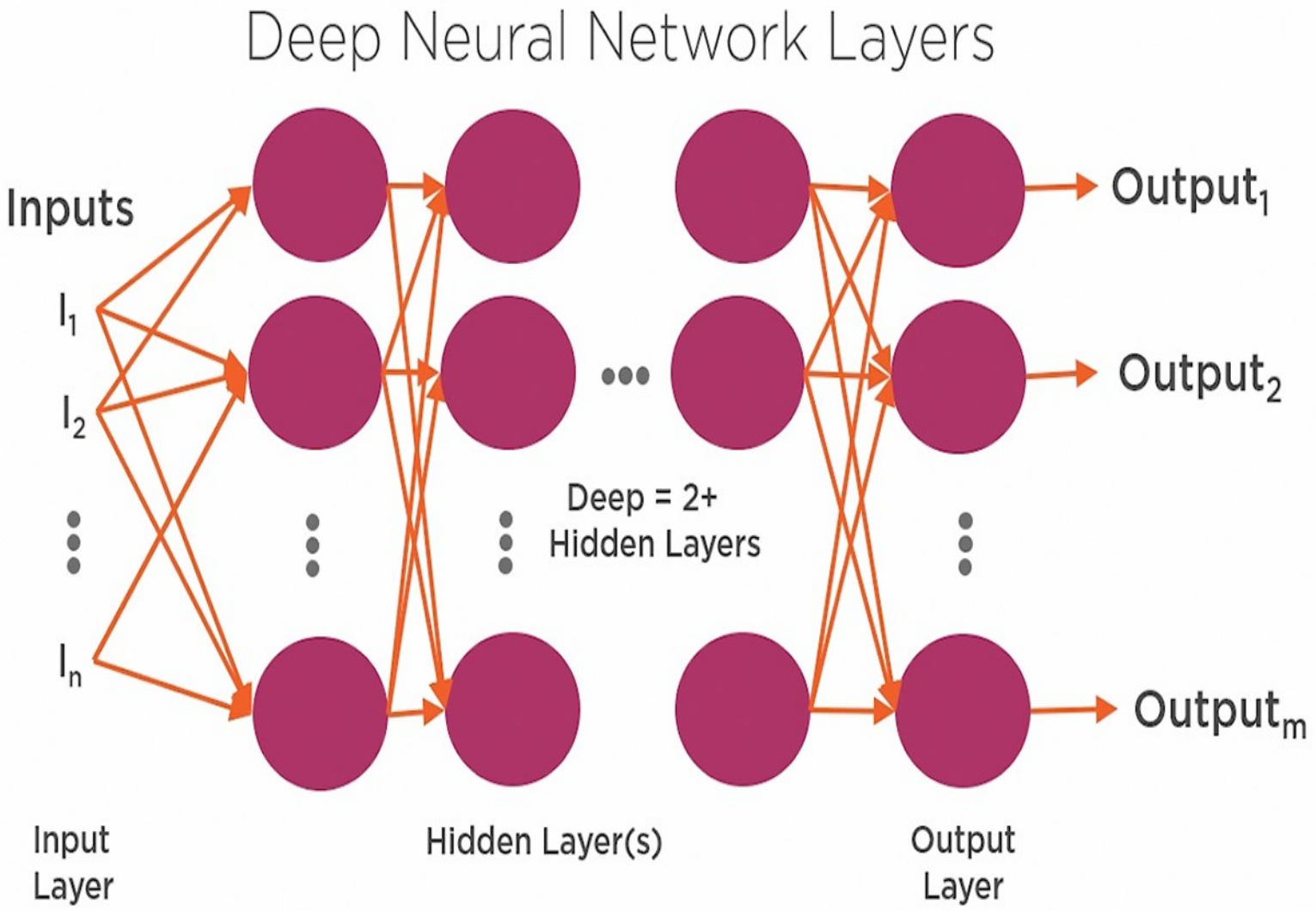


Schools

Algorithms and libraries that we will learn

- NN
- DNN
- ANN
- CNN
- OpenCV & DNN
- Keras
- Tensorflow

NN


Deep Neural Network Layers
Inputs
I_1
I_2
I_n
Deep = 2+
Hidden Layers
$Output_1$
$Output_2$
$Output_m$
Input
Layer
Hidden Layer(s)
Output
Layer

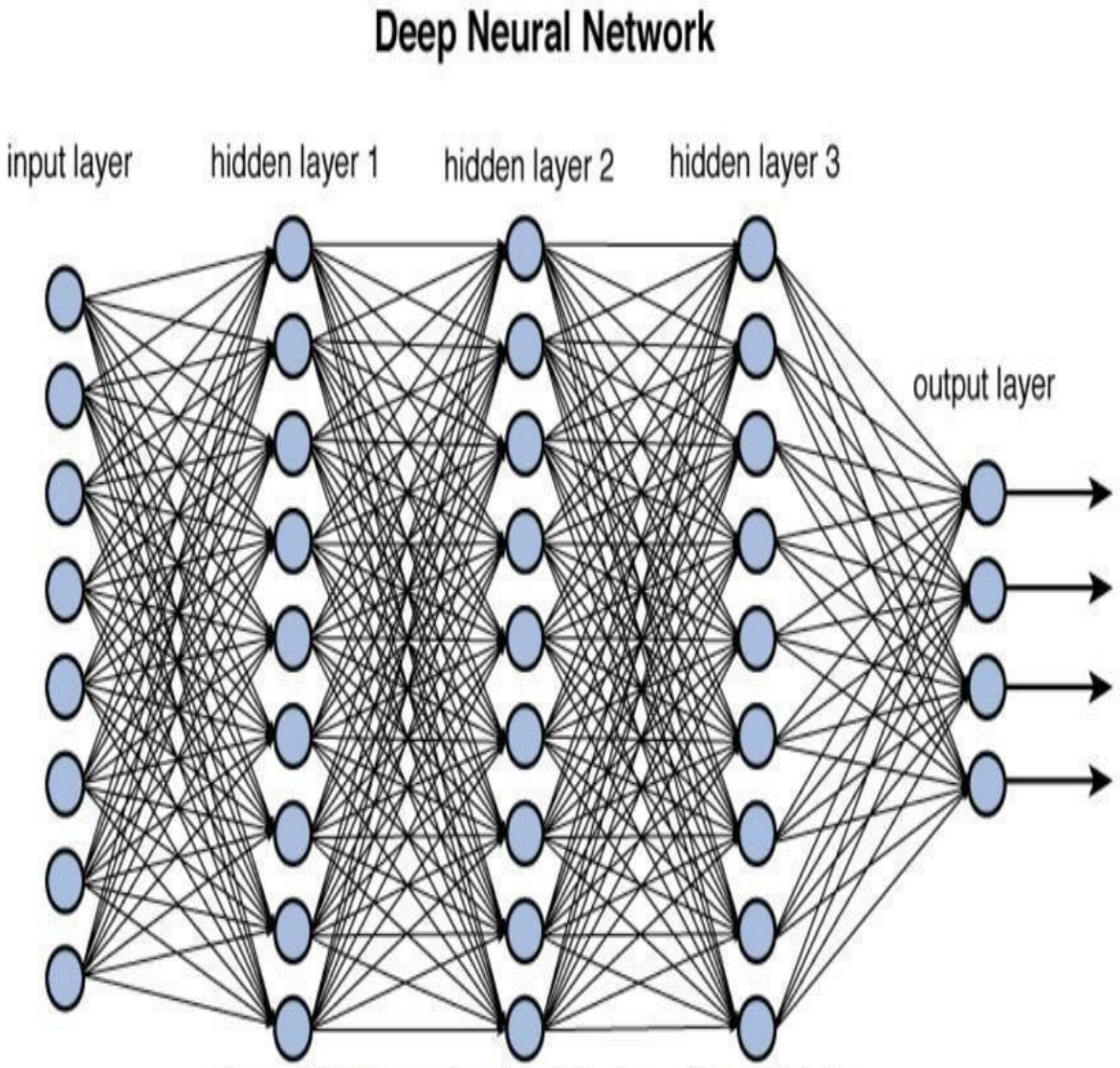
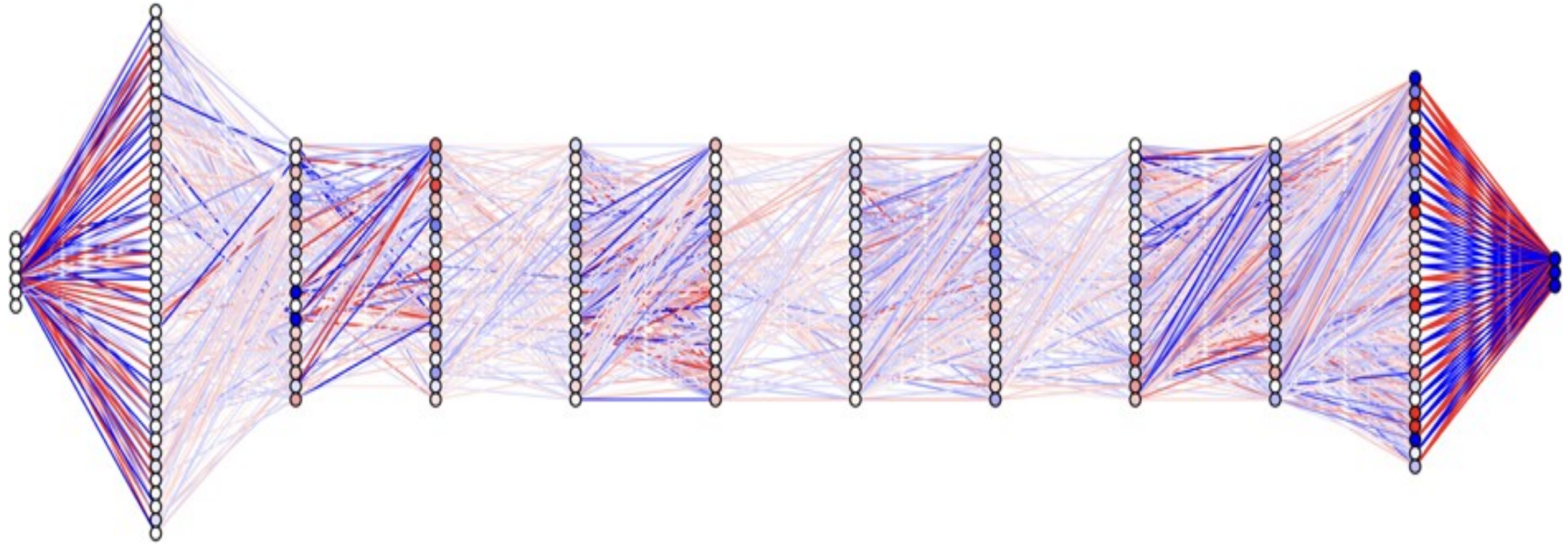
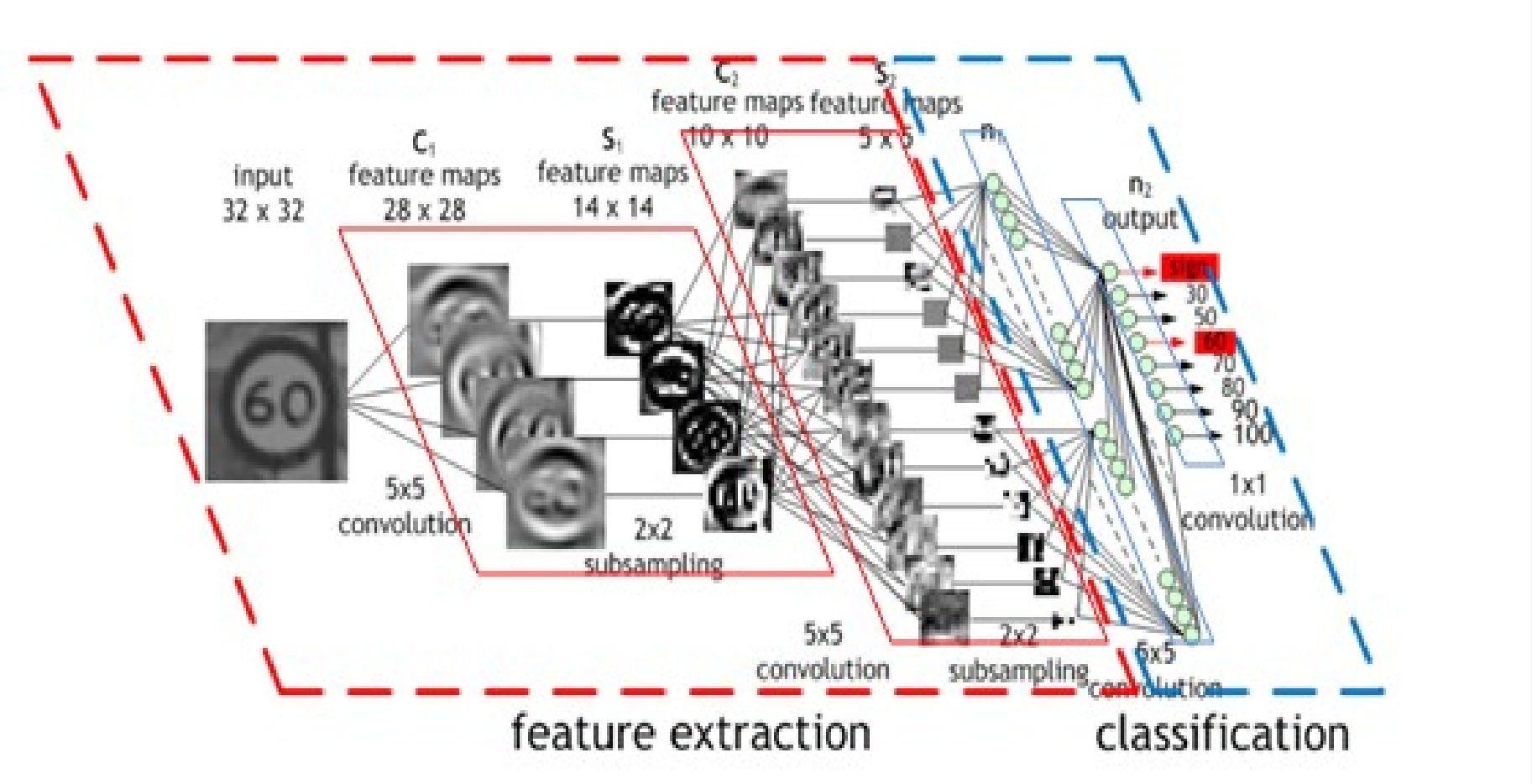


Figure 12.2 Deep network architecture with multiple layers.

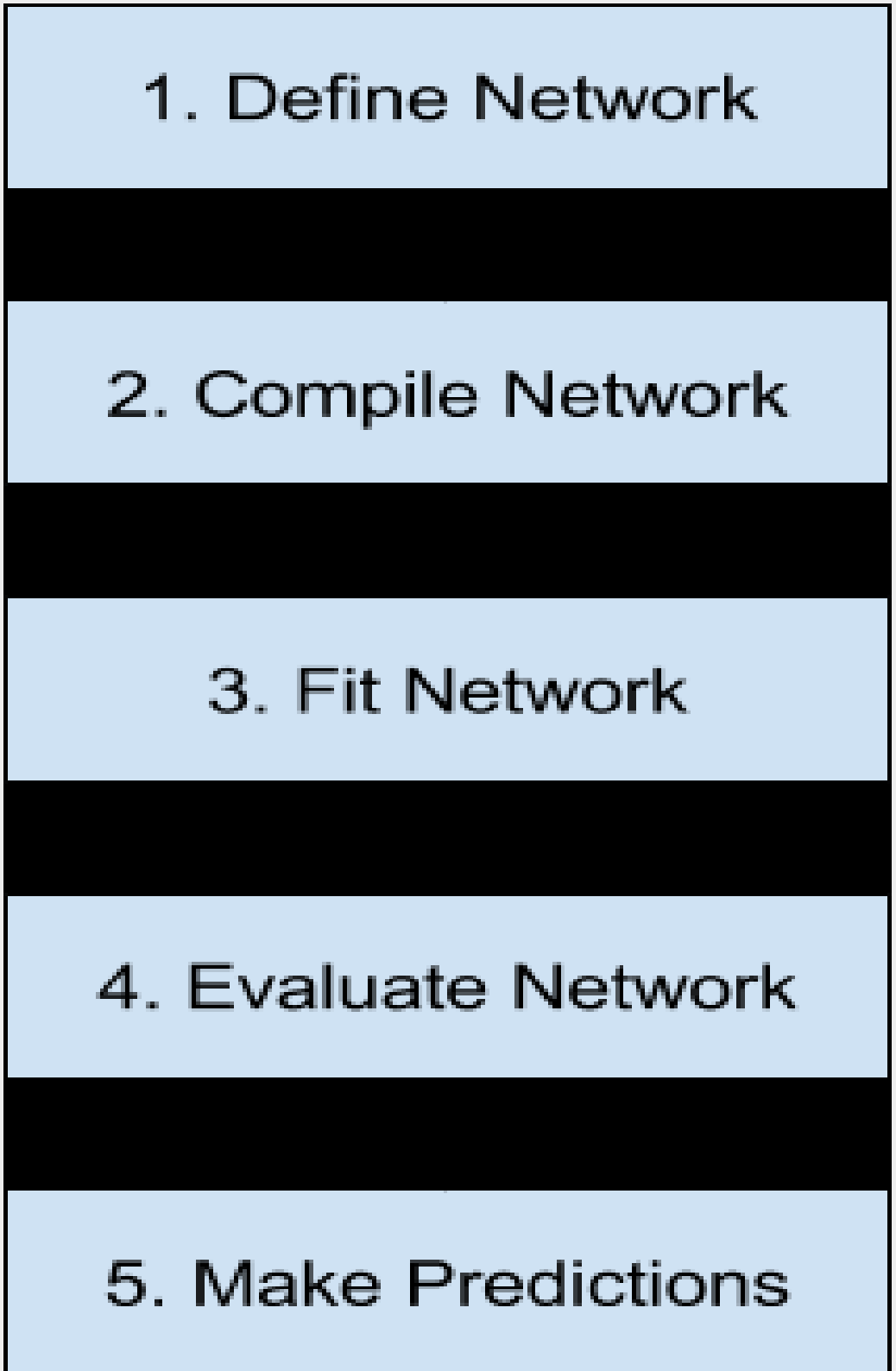
DNN

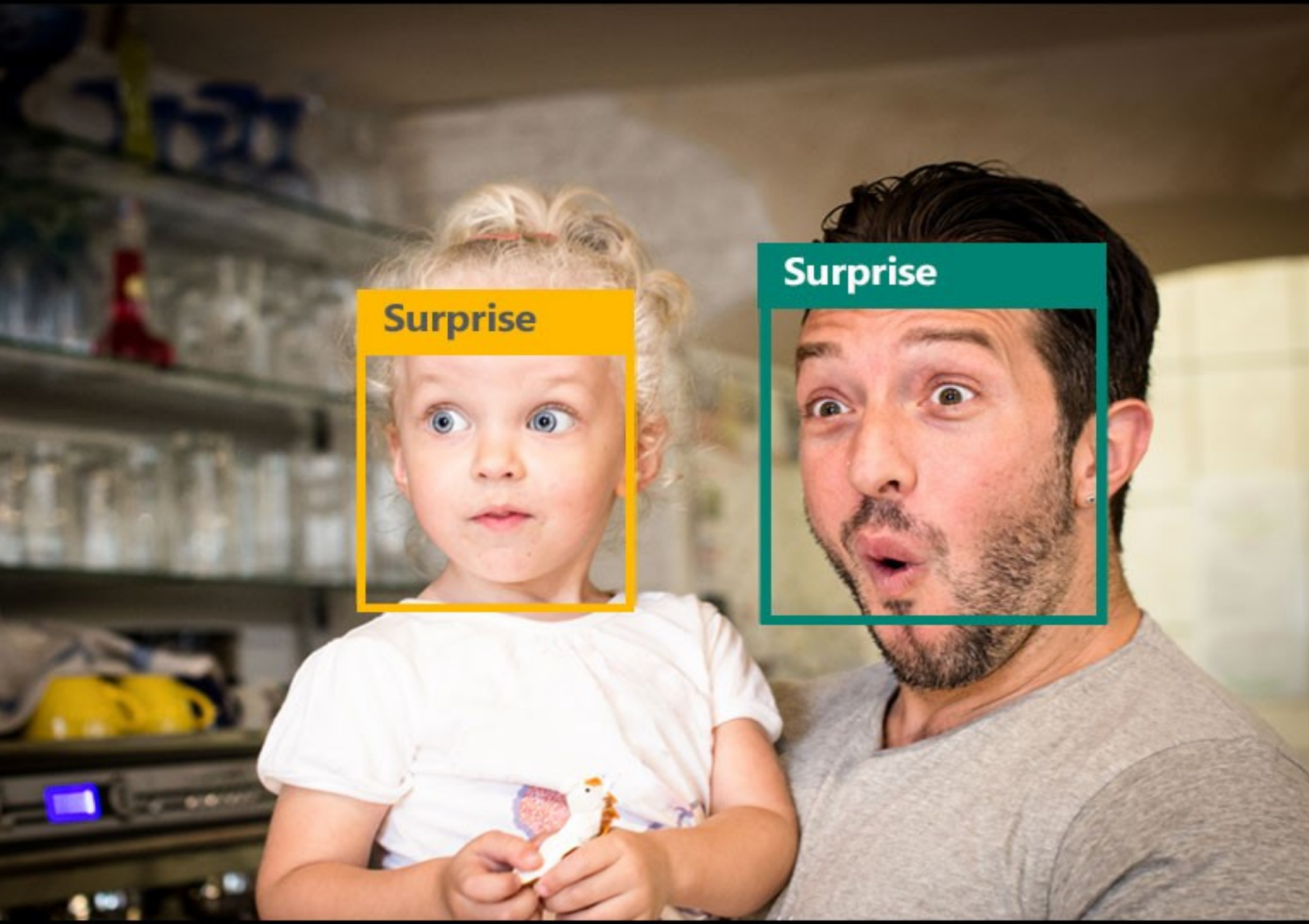


CNN


input
32 x 32
C1
feature maps
28 x 28
S1
feature maps
14 x 14
C2
feature maps
10 x 10
S2
feature maps
5 x 5
n1
n2
output
5x5
convolution
2x2
subsampling
5x5
convolution
2x2
subsampling
1x1
convolution
6x5
convolution
30
50
60
70
80
90
100
feature extraction
classification

Keras
TensorFlow / Theano / CNTK / ...
CUDA / cuDNN
BLAS, Eigen
GPU
CPU


1. Define Network
2. Compile Network
3. Fit Network
4. Evaluate Network
5. Make Predictions


Surprise
Surprise