

Image Basics with CNN

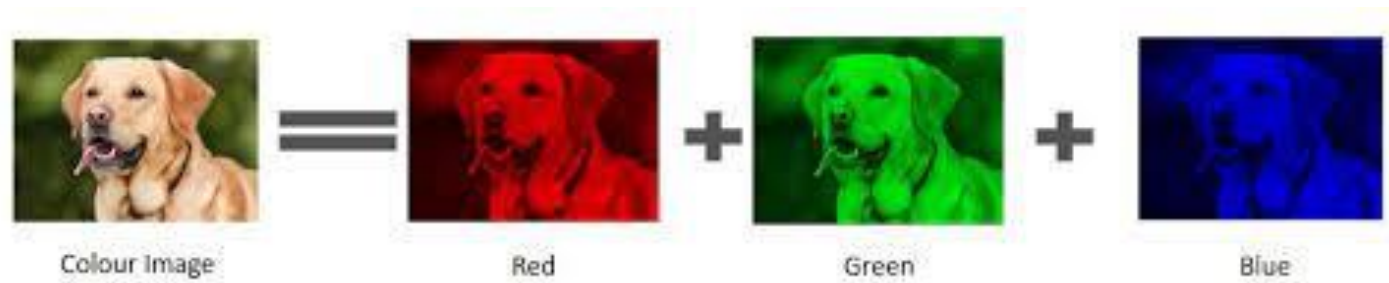
UTKARSH GAIKWAD

Topics to be covered today

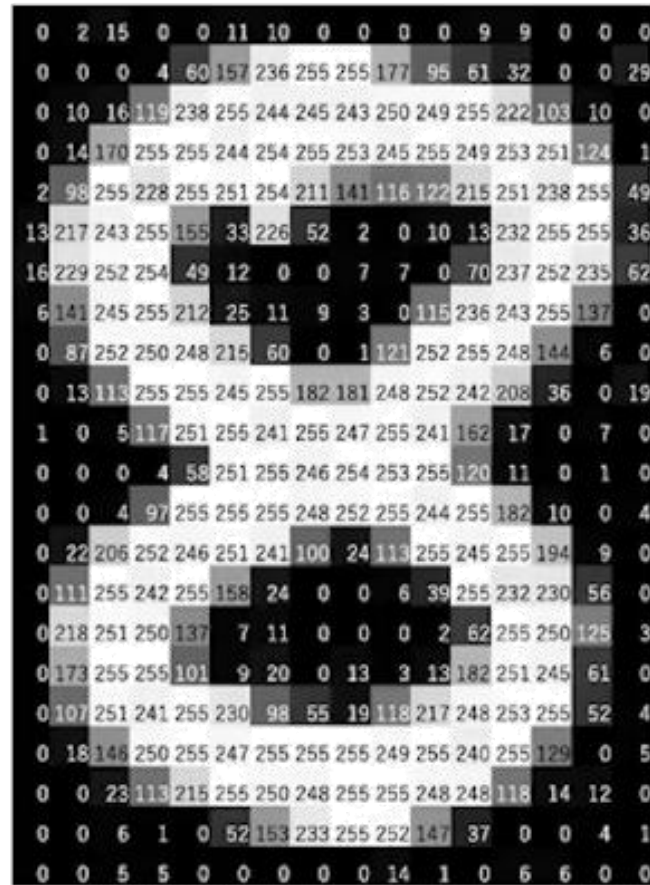
- How is image stored inside a computer?
- Image Processing and reading with OpenCV Library
- Need For image classification
- Convolution Layer
- Max Pooling Layer
- Average Pooling Layer
- Flatten Layer
- Architecture of CNN (Convolutional Neural Network)

How is image stored inside a computer

Coloured Image



Grayscale Image



CV2 Library to read images as array

```
import cv2
```

```
cv2.imread(image_path)
```

```
# Convert BGR to RGB
```

```
cv2.cvtColor(arr, cv2.COLOR_BGR2RGB)
```

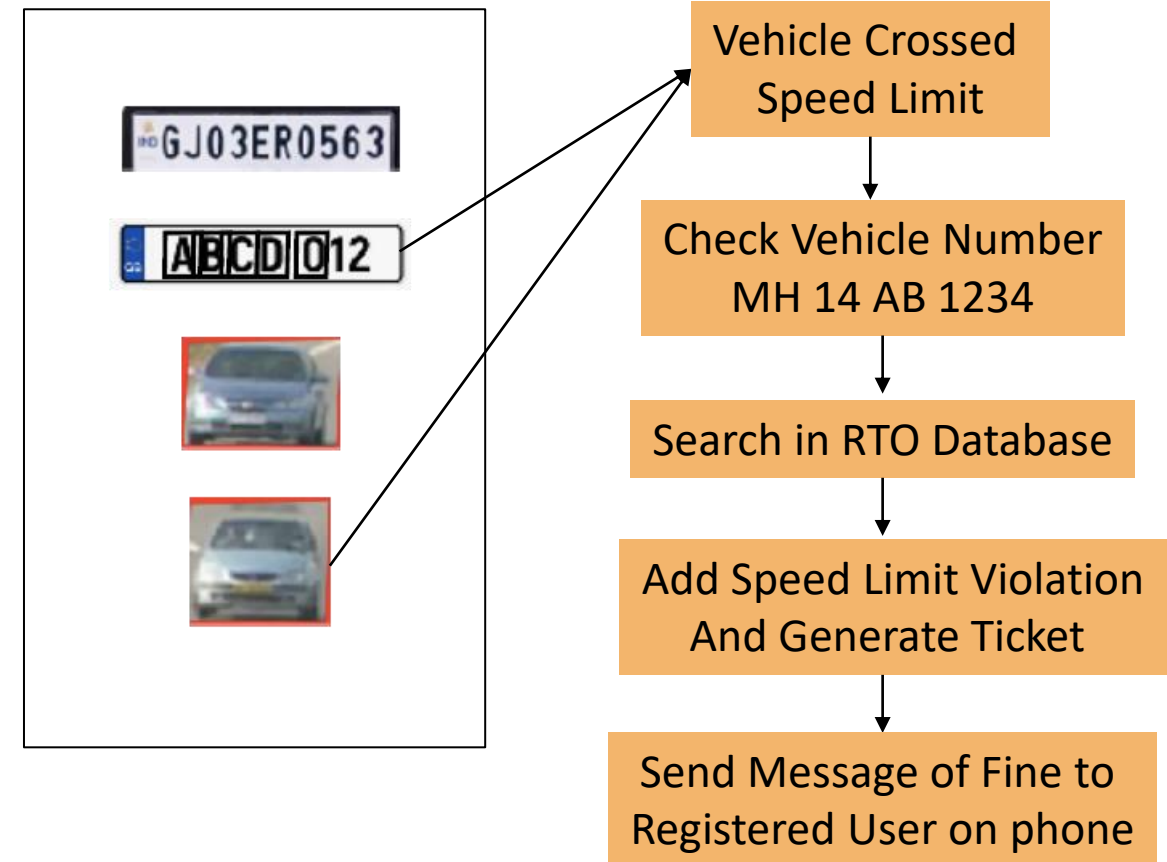
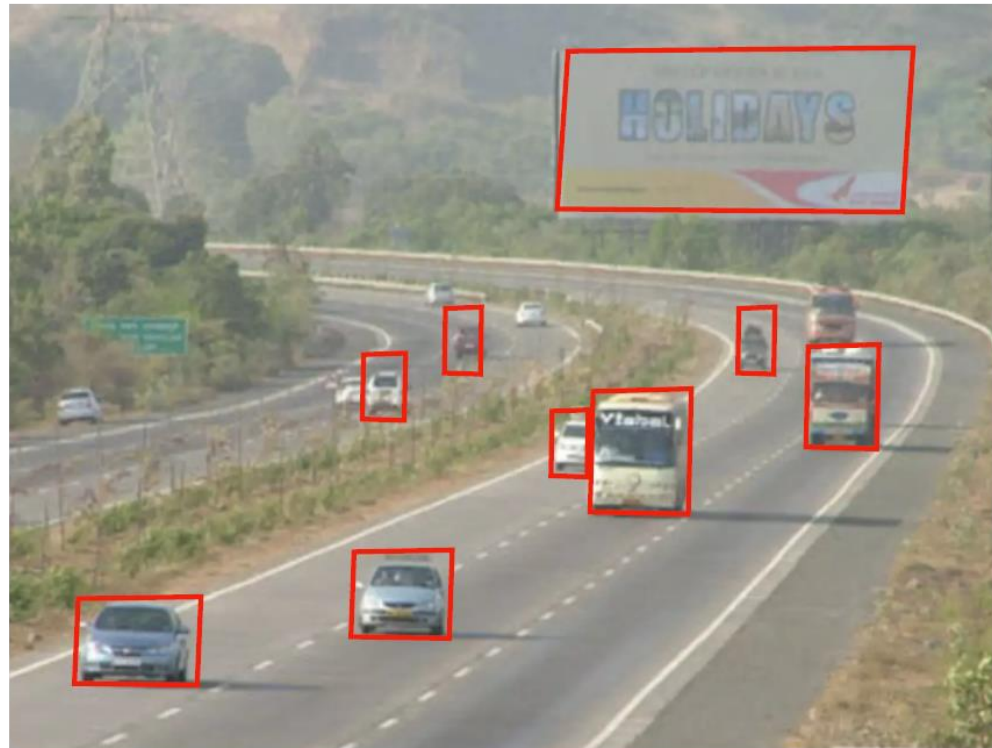
```
# Showing image inside python
```

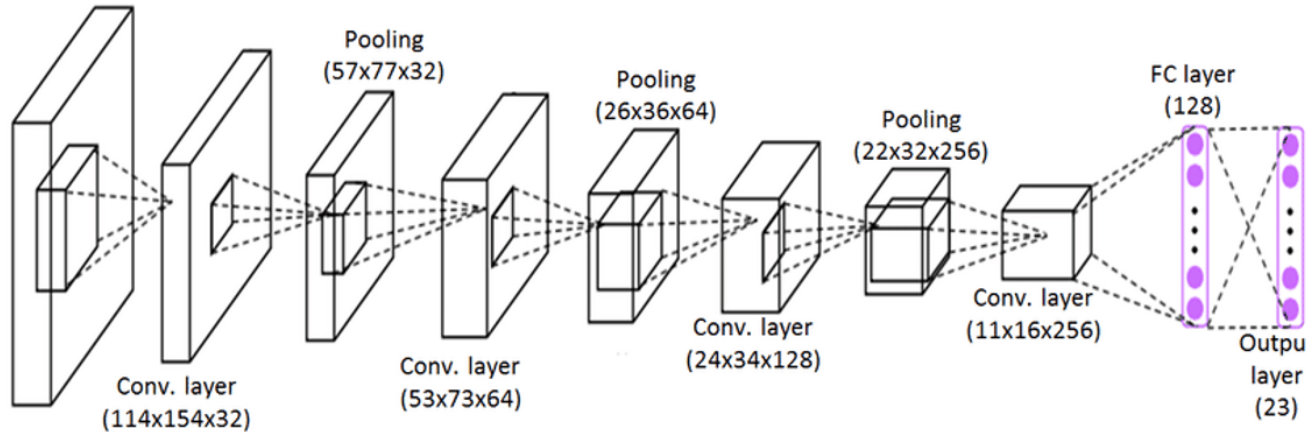
```
plt.imshow(img_arr)
```

```
# Read image as grayscale
```

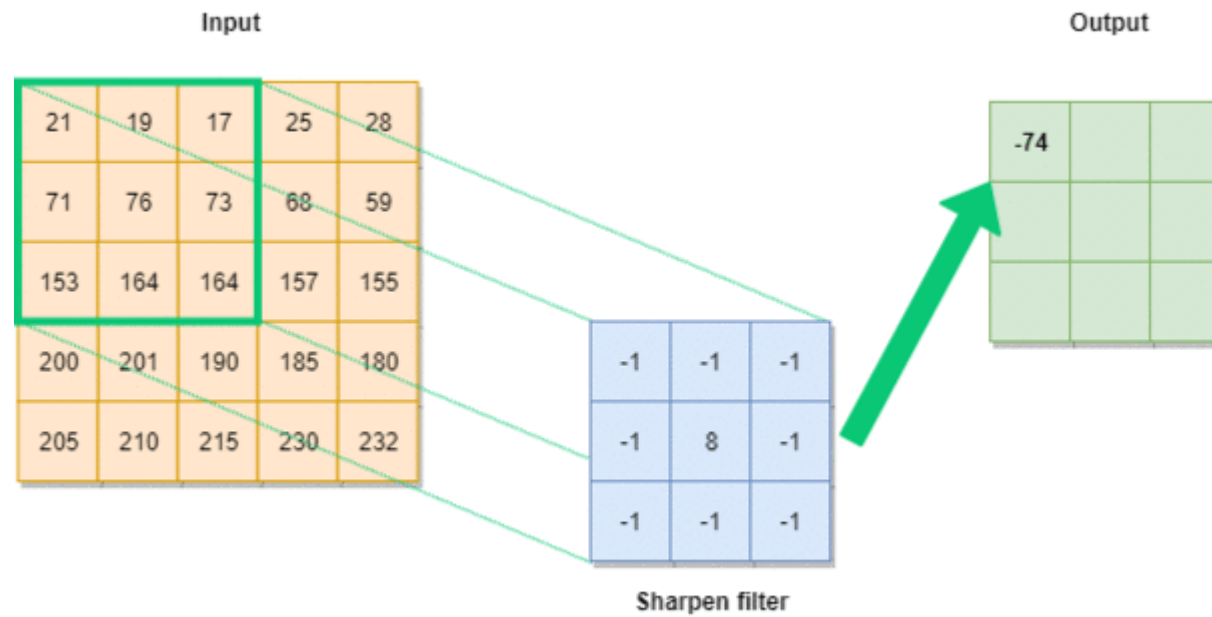
```
plt.imshow(img_arr,cmap='gray')
```

Need of Image Classification

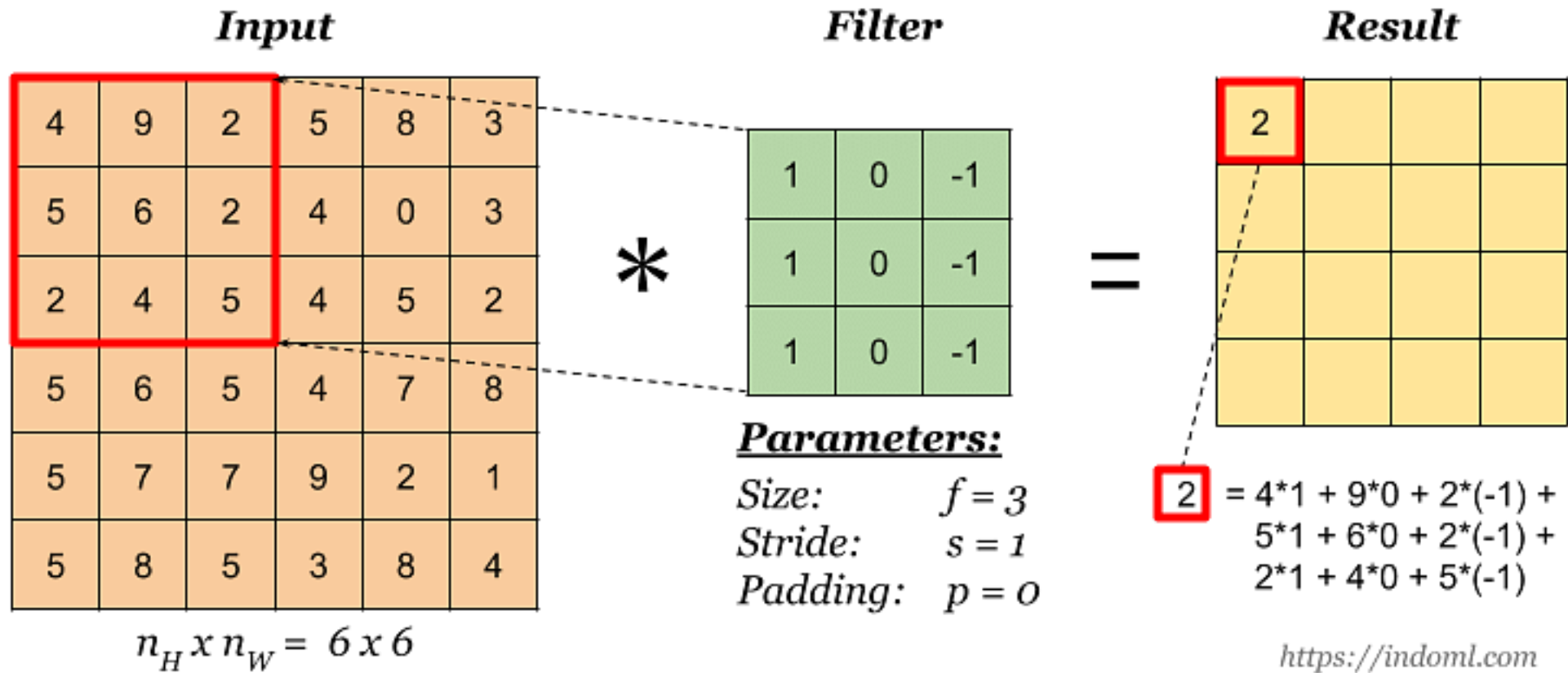




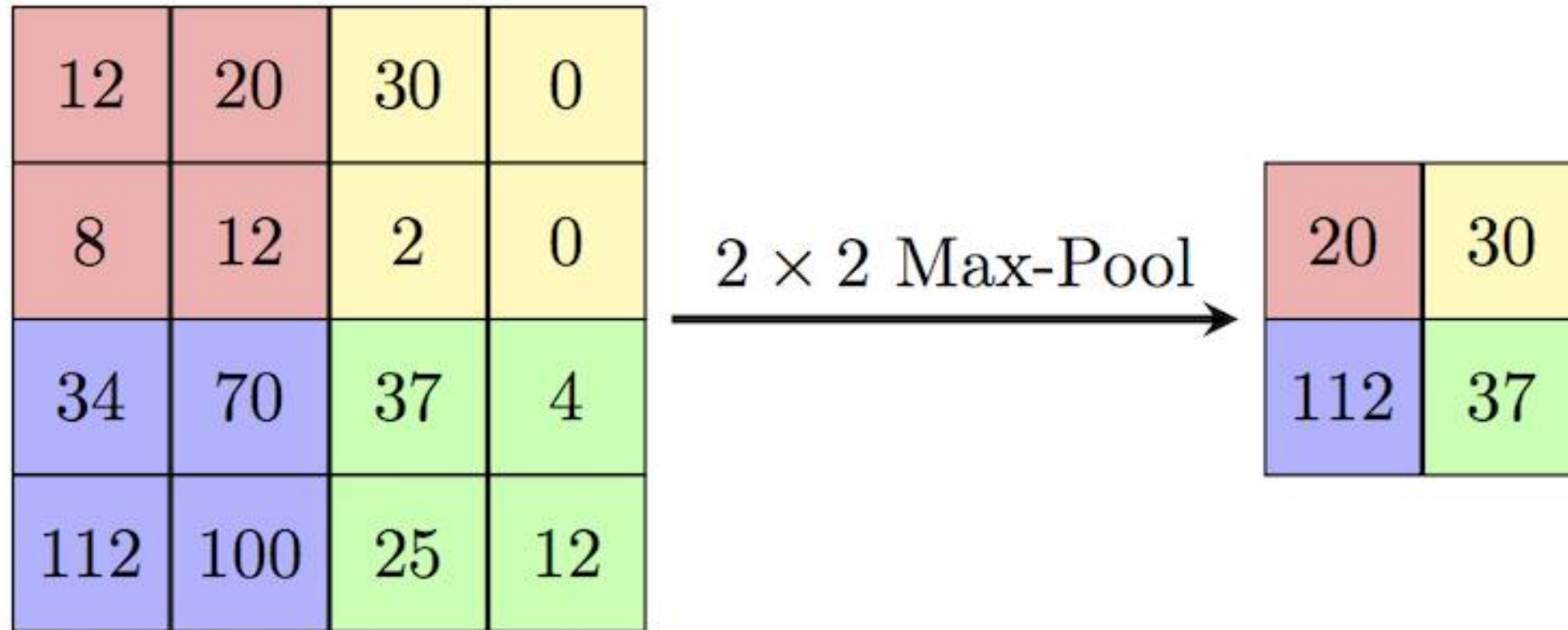
Convolution Layer



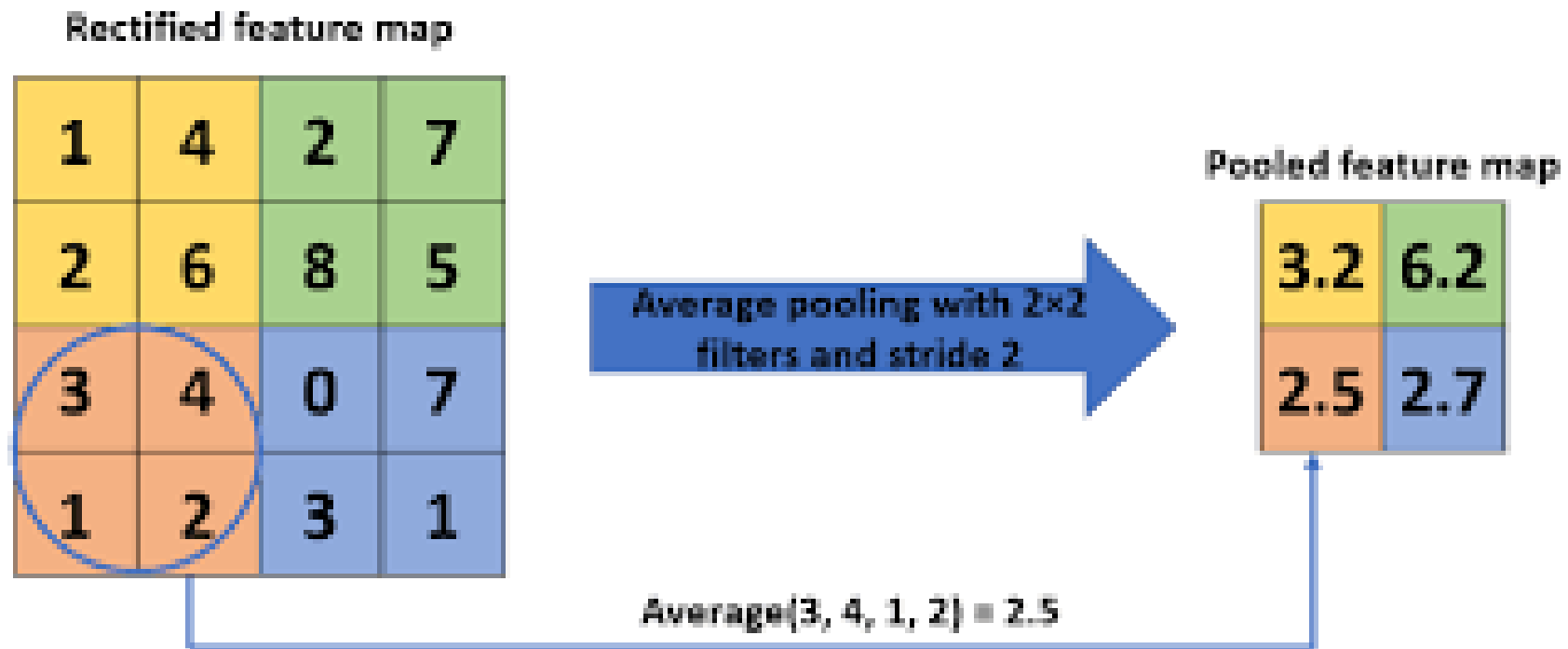
Convolution Layer continued



MaxPooling Layer

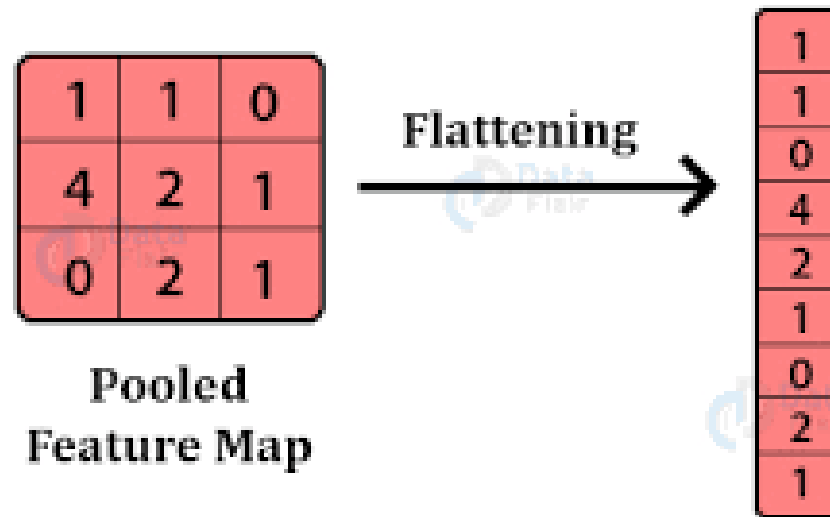


AveragePooling Layer

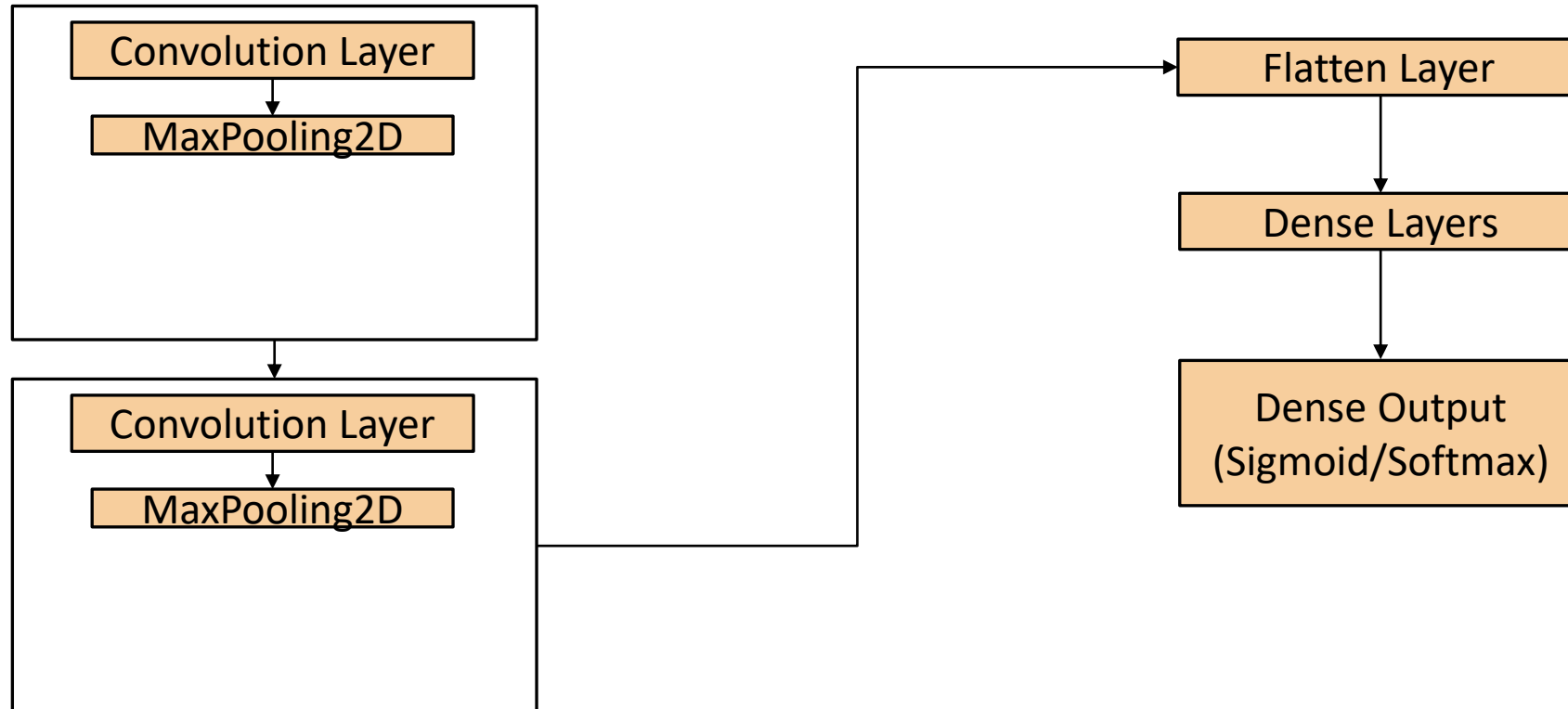


Flatten Layer in Keras

Flatten Layer in Keras



Architecture of CNN



Thank You

PING ME ON SKYPE GROUP IF YOU HAVE ANY FURTHER QUERIES

