

## Assignment 2.1

FAHAD SUEB (D0016)

1) Conv2D layer 1  $\rightarrow$  1792

$$((3 \times 3) \times 64 \times 3) + 64$$

$\downarrow$                        $\downarrow$                        $\downarrow$                        $\downarrow$   
 Kernel           filters           channel           back propagation

2) Conv2D layer 2  $\rightarrow$  18464

$$((3 \times 3) \times 32 \times 64) + 32$$

$\downarrow$                        $\downarrow$                        $\downarrow$                        $\downarrow$   
 Kernel           filters           previous layer filters           back propagation

3) Dense layer 1  $\rightarrow$  1049088

$$(512 \times 2048) + 512$$

$\downarrow$                        $\downarrow$                        $\downarrow$   
 neurons           flatten() o/p           back propagation

4) Dense layer 2  $\rightarrow$  131328

$$(256 \times 512) + 256$$

$\downarrow$                        $\downarrow$                        $\downarrow$   
 neurons           o/p from prev layer           back propagation

5) Dense layer 3  $\rightarrow$  32896

$$(128 \times 256) + 128$$

$\downarrow$                        $\downarrow$                        $\downarrow$   
 neurons           o/p from prev layer           back propagation

6) Dense layer 4  $\rightarrow$  8256

$$(64 \times 128) + 64$$

$\downarrow$                        $\downarrow$                        $\downarrow$   
 neurons           o/p from previous layer           back propagation



7) Dense layer 5  $\rightarrow$  2080

$$(32 \times 64) + 32$$

$\downarrow$                        $\downarrow$                        $\downarrow$   
neurons              o/p from              back propagation  
prev layer

8) Dense layer 6 (o/p layer)  $\rightarrow$  330

$$(10 \times 32) + 10 \rightarrow \text{back propagation.}$$

$\downarrow$                        $\downarrow$   
no. of o/p              o/p from  
neurons              prev layer

Total trainable parameters = 1,244,234.