

RADNIKA PATWARI

18CS10062

40000

x 3

CS60010 - Class test 2 - Part C

1. (a) weight matrix = $(200 \times 200 \times 3) \times (100)$
 $= \underline{120000 \times 100}$ dimension.

bias vector = 100×1

(b) ~~Shape after convolution =~~

width after convolution = $\left\lfloor \frac{200 - 4 + 2}{1} \right\rfloor + 1$

$= \left\lfloor \frac{198}{1} \right\rfloor + 1$

$= \underline{199}$

\therefore Shape after convolution = $\underline{199 \times 199 \times 10}$

No. of parameter learnable = $\underline{(4 \times 4 \times 10 \times 3)}$

$= \underline{480}$

(c) ~~2000000~~

for 1 filter = $(4 \times 4) \times 199 \times 199 \times 3$

for 10 filters, computation

= $(4 \times 4) \times 199 \times 199 \times 3 \times 10$

= 19008480

(d) $Z_{\text{out}} = 199 \times 199 \times 10$
 kernel = 2×2

$$\begin{array}{r} 199 \\ 199 - 2 \\ \hline 2 \end{array} + 1$$

~~98~~ 98 + 1

Output activation map = ~~1900~~
99 \times 99 \times 10

1 variable parameters = 0