Mohammad Shafkat Hasan ID: 19101077

CSE425_Sec04 Quiz-03 2023/08/11

Ans. To The Q. No. 1

Given,

image to be convoluted = 256 × 256

filter size used = 8 × 8 ∴ F = 8

Stride, S = 2

max pool = 2 × 2

padding, P = 0

total filters, K = 6

Now,

For Model 1:

filter = 6 × 8 × 8

$W_C = \left[\frac{W + 2P - F}{S}\right] + 1$

$= \frac{256 + 0 - 8}{2} + 1$

$= 125 = 6 \times 125 \times 125$

Max pooling $= \frac{125}{2}$

$= 62.5 \approx 62$

$= 6 \times 62 \times 62$

For Model 2:

filter = 6 × 8 × 8

$W_C = \left[\frac{W + 2P - F}{S}\right] + 1$

$= \left[\frac{62 + 0 - 8}{2}\right] + 1$

$= 28 = 2 \times 28 \times 28$

Max Pooling $= \frac{28}{2}$

$= 14$

$= 6 \times 14 \times 14$

For Model 3:

filter = 6 × 8 × 8

$W_C = \left[\frac{W + 2P - F}{S}\right] + 1$

$= \left[\frac{14 + 0 - 8}{2}\right] + 1$

$= 4 = 6 \times 4 \times 4$

Max Pooling

$= \frac{4}{2} = 2$

$= 6 \times 2 \times 2$

∴ Number of flattening layer Node

$= 6 \times 2 \times 2 = 24$

ID: 19101077

Input

↓ 1×256×256

convulation → 2×8×8 / 256×256

↓ 2×125×125

max pooling → 2×2

↓ 2×62×62

convolution → 8×8×2 / 62×62

↓ 2×28×28

max pooling → 2×2

↓ 2×14×14

convolution → 8×8×2 / 14×14

↓ 2×4×4

max pooling → 2×2

↓ 6×2×2

flattened → 24

↓

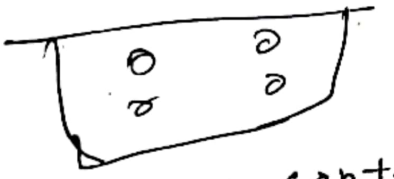

image contain 2×2 pixle