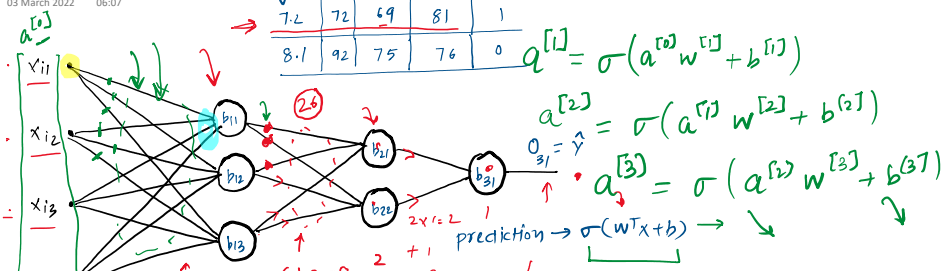


| cgpa | iq | 10th m | 12th m | placed | # of trainable parameters |
|------|----|--------|--------|--------|---------------------------|
| 7.2 | 72 | 69 | 81 | 1 | |
| 8.1 | 92 | 75 | 76 | 0 | |



Layer #1

$$\begin{bmatrix} x_{i1} \\ x_{i2} \\ x_{i3} \\ x_{i4} \end{bmatrix} \begin{bmatrix} w_{11}^1 & w_{12}^1 & w_{13}^1 \\ w_{21}^1 & w_{22}^1 & w_{23}^1 \\ w_{31}^1 & w_{32}^1 & w_{33}^1 \\ w_{41}^1 & w_{42}^1 & w_{43}^1 \end{bmatrix}^T \begin{bmatrix} x_{i1} \\ x_{i2} \\ x_{i3} \\ x_{i4} \end{bmatrix} + \begin{bmatrix} b_{11} \\ b_{12} \\ b_{13} \end{bmatrix} \rightarrow 3 \times 1$$

$$\sigma \left(\sigma \left(\left(\sigma(a^{[0]} w^{[1]} + b^{[1]}) \right) w^{[2]} + b^{[2]} \right) w^{[3]} + b^{[3]} \right)$$

$$a^{[3]} = \hat{y}$$

$$= \begin{bmatrix} w_{11}^1 x_{i1} + w_{21}^1 x_{i2} + w_{31}^1 x_{i3} + w_{41}^1 x_{i4} \\ w_{12}^1 x_{i1} + w_{22}^1 x_{i2} + w_{32}^1 x_{i3} + w_{42}^1 x_{i4} \\ w_{13}^1 x_{i1} + w_{23}^1 x_{i2} + w_{33}^1 x_{i3} + w_{43}^1 x_{i4} \end{bmatrix} \begin{bmatrix} b_{11} \\ b_{12} \\ b_{13} \end{bmatrix}$$

$$= \sigma \left(\begin{bmatrix} w_{11}^1 x_{i1} + w_{21}^1 x_{i2} + w_{31}^1 x_{i3} + w_{41}^1 x_{i4} + b_{11} \\ w_{12}^1 x_{i1} + w_{22}^1 x_{i2} + w_{32}^1 x_{i3} + w_{42}^1 x_{i4} + b_{12} \\ w_{13}^1 x_{i1} + w_{23}^1 x_{i2} + w_{33}^1 x_{i3} + w_{43}^1 x_{i4} + b_{13} \end{bmatrix} \right)$$

$$= \begin{bmatrix} 0.11 \\ 0.12 \\ 0.13 \end{bmatrix} \rightarrow a^{[1]}$$

Layer #2

$$\begin{bmatrix} w_{11}^2 & w_{12}^2 \\ w_{21}^2 & w_{22}^2 \\ w_{31}^2 & w_{32}^2 \end{bmatrix}^T \begin{bmatrix} 0.11 \\ 0.12 \\ 0.13 \end{bmatrix} + \begin{bmatrix} b_{21} \\ b_{22} \end{bmatrix} \rightarrow 2 \times 1$$

$$= \sigma \left(\begin{bmatrix} w_{11}^2 0.11 + w_{21}^2 0.12 + w_{31}^2 0.13 + b_{21} \\ w_{12}^2 0.11 + w_{22}^2 0.12 + w_{32}^2 0.13 + b_{22} \end{bmatrix} \right) = \begin{bmatrix} 0.21 \\ 0.22 \end{bmatrix} \leftarrow a^{[2]}$$

Layer #3

$$\begin{bmatrix} w_{11}^3 \\ w_{21}^3 \end{bmatrix}^T \begin{bmatrix} 0.21 \\ 0.22 \end{bmatrix} + \begin{bmatrix} b_{31} \end{bmatrix} \rightarrow 1 \times 1$$

$$= \sigma \left(\begin{bmatrix} w_{11}^3 0.21 + w_{21}^3 0.22 + b_{31} \end{bmatrix} \right) = \hat{y}_1 = \begin{bmatrix} 0.31 \end{bmatrix} \leftarrow a^{[3]}$$