

* Back Prop:

(16)

1) Finding delta:-

$$\delta_5 = \gamma * (1 - \gamma) * (t - \gamma) =$$

$$\delta_3 = O_3(1 - O_3) * \delta_5 * W_{35} =$$

$$\delta_4 = O_4(1 - O_4) * \delta_5 * W_{45} =$$

Finding new weights:-

$$W_{35} = W_{35} + \eta * O_3 * \delta_5 =$$

new old

$$W_{45} = W_{45} + \eta * O_4 * \delta_5 =$$

$$W_{b5} = W_{b5} + \eta * 1 * \delta_5 =$$

$$W_{14} = W_{14} + \eta * X_1 * \delta_4 =$$

$$W_{24} = W_{24} + \eta * X_2 * \delta_4 =$$

$$w_{b4}^{new} = w_{b4}^{old} + \eta * 1 * \delta_4 =$$

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$$w_{13} = w_{13} + \eta * x_1 * \delta_3 =$$

$$w_{23} = w_{23} + \eta * x_2 * \delta_3 =$$

$$w_{b3} = w_{b3} + \eta * 1 * \delta_3 =$$

pattern 3, epoch (1)

weights

$$w_{13} =$$

$$w_{23} =$$

$$w_{b3} =$$

$$w_{14} =$$

$$w_{24} =$$

$$w_{b4} =$$

$$w_{35} =$$

$$w_{45} =$$

$$w_{b5} =$$

* Forward Prop.:

$$* net_3 = w_{13} * x_1 + w_{23} * x_2 + w_{b3} =$$

$$O_3 = 1 / (1 + e^{-net_3}) =$$

$$* net_4 = w_{14} * x_1 + w_{24} * x_2 + w_{b4} =$$

$$O_4 = 1 / (1 + e^{-net_4}) =$$

$$net_5 = w_{35} * O_3 + w_{45} * O_4 + w_{b5}$$

(18)

$$Y = (1 / (1 + e^{-net_5})) =$$

* calculating error

$$Err-p_3 = \frac{(T-Y)^2}{2}$$

* Back prop. :-

* (1) Finding delta

$$\delta_5 = Y(1-Y)(T-Y)$$

$$\delta_3 = O_3(1-O_3) * \delta_5 * w_{35} =$$

$$\delta_4 = O_4(1-O_4) * \delta_5 * w_{45} =$$

(2) Finding new weights :-

$$w_{35}^{new} = w_{35}^{old} + \eta * O_3 * \delta_5 =$$

$$w_{45} = w_{45} + \eta * O_4 * \delta_5 =$$

$$w_{b5} = w_{b5} + \eta * 1 * \delta_5 =$$

$$w_{14} = w_{14} + \eta * X_1 * \delta_4 =$$

$$w_{24} = w_{24} + \eta * X_2 * \delta_4 =$$

Scanned with CamScanner

Time 22:50 pattern 4 يومر

Total error =

مساب

$$Err-P_1 + Err-P_2 + Err-P_3 + Err-P_4 =$$

$$0.1985 + \dots$$

هكذا فنحن نحصل على محمل الخطأ، وعندها يمكن أن نرى
التحقق أو قيمة التكرار.