ANN : compute adaptive weight

- Initial weights

w_{1j}	w_{1i}	w_{2j}	w_{2i}	w_{3i}	w_{3j}	w_{jk}	w_{ik}
0,2	0,1	0,3	-0,1	0,2	-0,1	0,1	0,5

- Input

[1, 0,4, 0.7]

- Nodes.

(1, 2, 3) → (j, i) → K

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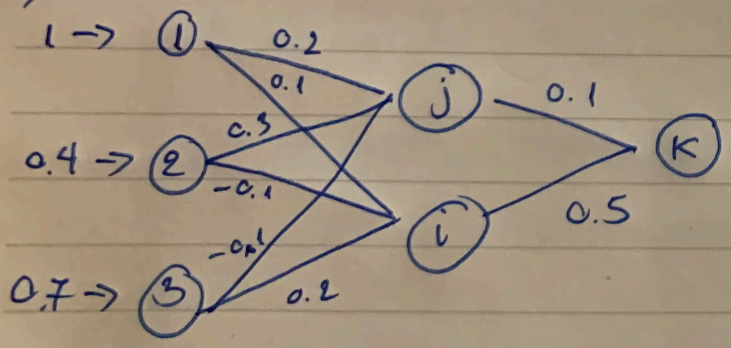
(1) NN architecture



(2) Activation function → sigmoid.

$$Out_i = \frac{1}{1 + e^{-netout_i}}$$

- for node j

→ $netout_j = N_1 \times W_{1j} + N_2 \times W_{2j} + N_3 \times W_3$

$= 1 \times 0.2 + 0.4 \times 0.3 + 0.7 \times (-0.$

$= 0.2 + 0.12 + (-0.0$

$= 0.25.$

→ $out_j = \frac{1}{1 + e^{-0.25}} = 0.56.$

- for node i.

→ $netout_i = N_1 \times W_{1i} + N_2 \times W_{2i} + N_3 \times$

$= 1 \times 0.1 + 0.4 \times (-0.1) + 0.7$

$= 0.1 + (-0.04) + 0.14$

$= 0.2.$

→ $out_i = \frac{1}{1 + e^{-0.2}} = 0.54$

- for output K

→ $netout_K = N_i \times W_{ik} + N_j \times W_{jk}$

$= 0.54 \times 0.5 + 0.56 \times 0.$

$= 0.326$

→ $out_K = \frac{1}{1 + e^{-0.326}} = 0.58$