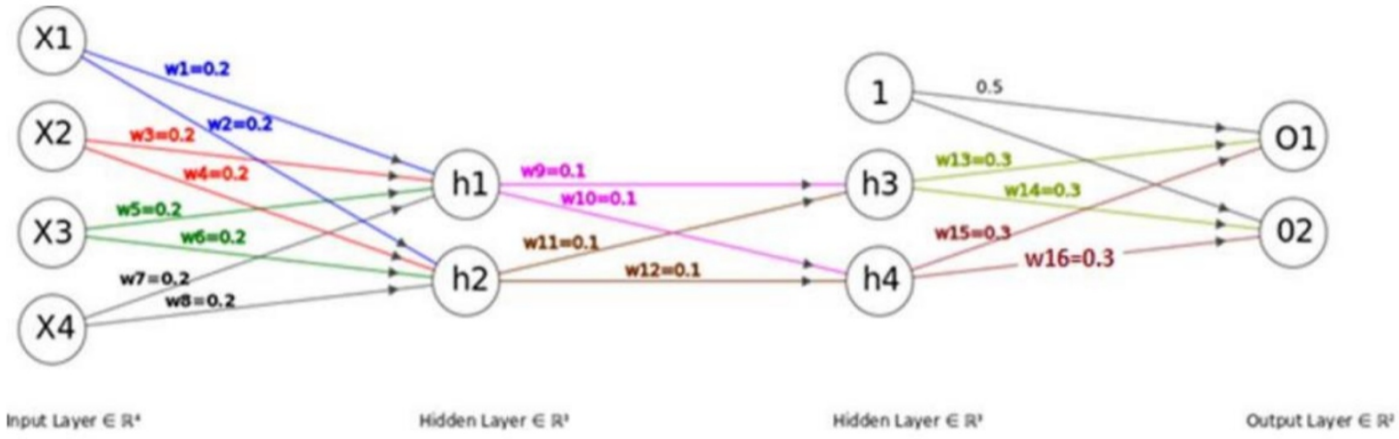


Calculate the output of the above neural network. Consider the following parameters:

x1 = (<SSID>/8964879)*23

x2 = (<SSID>/8964879)*32

x3 = (<SSID>/8964879)*56

x4 = (<SSID>/8964879)*48

Relu – Hidden layer

Sigmoid = Output layer

SSID : 2173839

Step 1.

$$x1 = \left(\frac{2173839}{8964879}\right) * 23$$

$$x2 = \left(\frac{2173839}{8964879}\right) * 32$$

$$x3 = \left(\frac{2173839}{8964879}\right) * 56$$

$$x4 = \left(\frac{2173839}{8964879}\right) * 48$$

First Compute:

$$\frac{2173839}{8964879} = 0.2424$$

Now:

$x1 = 0.242423 \approx 5.575$

$x2 = 0.242432 = 7.7568$

$x3 = 0.242456 \approx 13.5744$

$x4 \approx 0.242448 \approx 11.6352$

Step 2: First Hidden Layer ($h1, h^2$)

$h1$

$h1 = Relu(0.2\ (x1 + x2 + x3 + x4))$

SUM Inputs

$5.575 + 7.7568 + 13.5744 + 11.6352$

$= 38.5414$

Multiply 0.2

$0.2 \cdot 38.5414 = 7.7083$

Relu

$h1 = 7.7083$

Step3: Second Hidden Layer ($h3, h4$)

Weights $= 0.1$

$h3$

$h3 = Relu(0.1h1 + 0.1h2)$

$= 0.1\ (7.7083 + 7.7083)$

$= 0.115.4166$

$= 1.5417$

Relu:

$h3 = 1.5417$

h4

Same

$h4 = 1.5417$

## Step 4: Output Layer (Sigmoid)

From Diagram

Bias $= 0.5$

Weights $= 0.3$.

O1

$$z1 = 0.5 + 0.3h3 + 0.3h4$$
$$= 0.5 + 0.3(1.5417) + 0.3(1.5417)$$
$$= 0.5 + 0.4625 + 0.4625$$
$$= 1.425$$

Apply Sigmoid $e = 2.71828\ldots$

$$O1 = \frac{1}{1 + e^{-1.425}}$$

$$O1 = 0.806$$

O2

Same Weights

$n2 = 1.425$

$O2 = 0.806$

Final Answer.

$O1 = 0.806$

$O2 = 0.806$