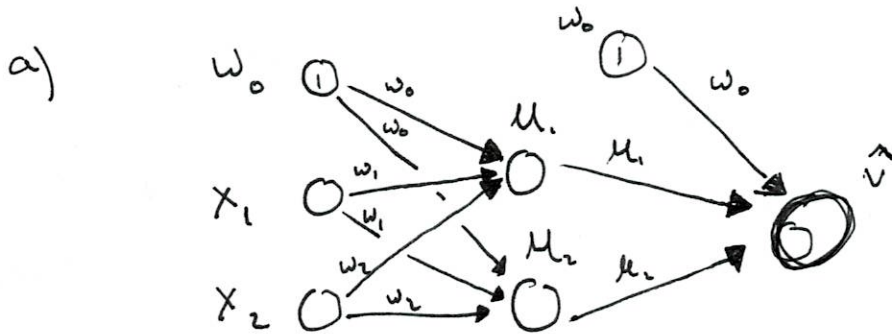


Andrew Caide
Problem Set 10

inputs	hidden layer	output
x_1	$\mu_1 = f(\omega_0^{(1)} + \omega_1^{(1)} x_1 + \omega_2^{(1)} x_2)$	$\hat{v} = f(\omega_0^{(2)} + \omega_1^{(2)} \mu_1 + \omega_2^{(2)} \mu_2)$
x_2	$\mu_2 = f(\omega_0^{(1)} + \omega_1^{(1)} x_1 + \omega_2^{(1)} x_2)$	



b)

$\omega_{0,1}^{(1)} = -1.2$	$\omega_{0,2}^{(1)} = 0.9$	$\omega_0^{(2)} = 0.2$	$x_1 = 1.3$ $x_2 = 0.7$
$\omega_{1,1}^{(1)} = 0.1$	$\omega_{1,2}^{(1)} = 0.8$	$\omega_1^{(2)} = -0.8$	
$\omega_{2,1}^{(1)} = 0.5$	$\omega_{2,2}^{(1)} = -0.3$	$\omega_2^{(2)} = 1.2$	

$$\mu_1 = \omega_0 + \omega_1 x_1 + \omega_2 x_2$$

$$= -1.2 + 0.1(1.3) + 0.5(0.7) = -0.72$$

$$\mu_2 = 0.9 + 0.8(1.3) - 0.3(0.7) = 1.73$$

$$\hat{v} = \omega_0^{(2)} + \omega_1^{(2)} \mu_1 + \omega_2^{(2)} \mu_2$$

$$= 0.2 + (-0.8)(-0.72) + 1.2(1.73)$$

$$\hat{v} = 2.852$$