

$$P(Y^0=1 | x^0, w) \propto \exp(0+0.25*3-0.25*-3) = 0.82$$

$$P(Y^1=1 | x^1, w) \propto \exp(0+0.25*-2-0.25*2) = 0.27$$

$$i=0, j=0: x_0^0(y^0-P(Y^0=1 | x^0, w)) = 1(1-0.82) = 0.18$$

$$i=0, j=1: x_0^1(y^1-P(Y^1=1 | x^1, w)) = 1(0-0.27) = -0.27$$

$$i=1, j=0: x_1^0(y^0-P(Y^0=1 | x^0, w)) = 3(1-0.82) = 0.54$$

$$i=1, j=1: x_1^1(y^1-P(Y^1=1 | x^1, w)) = -2(0-0.27) = 0.54$$

$$i=2, j=0: x_2^0(y^0-P(Y^0=1 | x^0, w)) = -3(1-0.82) = -0.54$$

$$i=2, j=1: x_2^1(y^1-P(Y^1=1 | x^1, w)) = 2(0-0.27) = -0.54$$

$$\text{grad} = [0.13-0.27, 0.54+0.54, -0.54-0.54]$$

$$= [-0.14, 1.04, -1.04]$$