

$$\begin{bmatrix} x_{i,1} & x_{i,2} & \dots & x_{i,p} \end{bmatrix}$$

$$\beta_{0,0} + \sum_{j=1}^g \beta_{j,0} x_{i,j}$$

$$\beta_{0,1} + \sum_{j=1}^g \beta_{j,1} x_{i,j}$$

...

$$\beta_{0,g} + \sum_{j=1}^g \beta_{j,g} x_{i,j}$$

SOFTMAX

$$P_r(y_i=0)$$

$$P_r(y_i=1)$$

...

$$P_r(y_i=g)$$