

Example : Softmax Loss

Q : 预测分数  $z$  真正输出标签  $y$

求正则化  $P$  和  $L$

Solution 
$$p_j = \frac{e^{z_j}}{\sum_k e^{z_k}}$$

$$p_1 = \frac{e^{0.7}}{e^{0.7} + e^{0.1} + e^{1.6} + e^{2.2} + e^{0.3}} = 0.109$$

$$p_2 = 0.060$$

$$p_3 = 0.269$$

$$p_4 = 0.489$$

$$p_5 = 0.073$$

$$L = - \sum_j y_j \ln p_j = -y_4 \ln p_4 = - \ln p_4$$

$$= - \ln 0.489 = 0.715$$