

- 用 $d^{(r)}(x)$ 写出 $r=2$ 和 $n=2$ 时的判别函数

常数项: $d^{(0)}(\mathbf{x}) = w_{n+1} = w_3$

一次项: $d^{(1)}(\mathbf{x}) = \sum_{p_1=1}^n w_{p_1} x_{p_1} + d^{(0)}(\mathbf{x}) = w_1 x_1 + w_2 x_2 + w_3$

二次项:
$$d^{(2)}(\mathbf{x}) = \sum_{p_1=1}^n \sum_{p_2=p_1}^n w_{p_1 p_2} x_{p_1} x_{p_2} + d^{(1)}(\mathbf{x})$$

$$= w_{11} x_1^2 + w_{12} x_1 x_2 + w_{22} x_2^2 + w_1 x_1 + w_2 x_2 + w_3$$