

频率转换过程 = 非线性激活函数  $f$

## 无 f 经典 全连接 NNs

$$X_1 = \left\{ x_{i_1} \mid i_1 \in \{ 1, \dots, I_1 \} \right\}^T$$

$x_1$

$x_2$

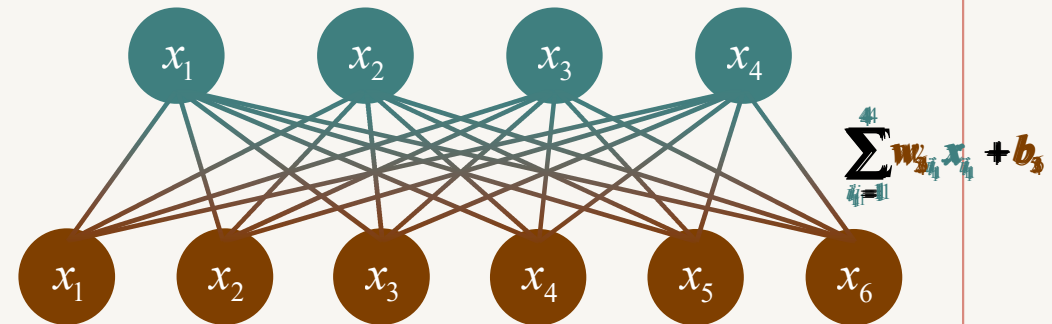
$x_3$

$x_4$

## 无 f 经典 全连接 NNs

$$X_1 = \left\{ x_{i_1} \mid i_1 \in \{1, \dots, I_1\} \right\}^T$$

$$X_2 = \left\{ x_{i_2} = \sum_{i_1=1}^{I_1} w_{i_2 i_1} x_{i_1} + b_{i_2} \mid i_2 \in \{1, \dots, I_2\} \right\}^T$$

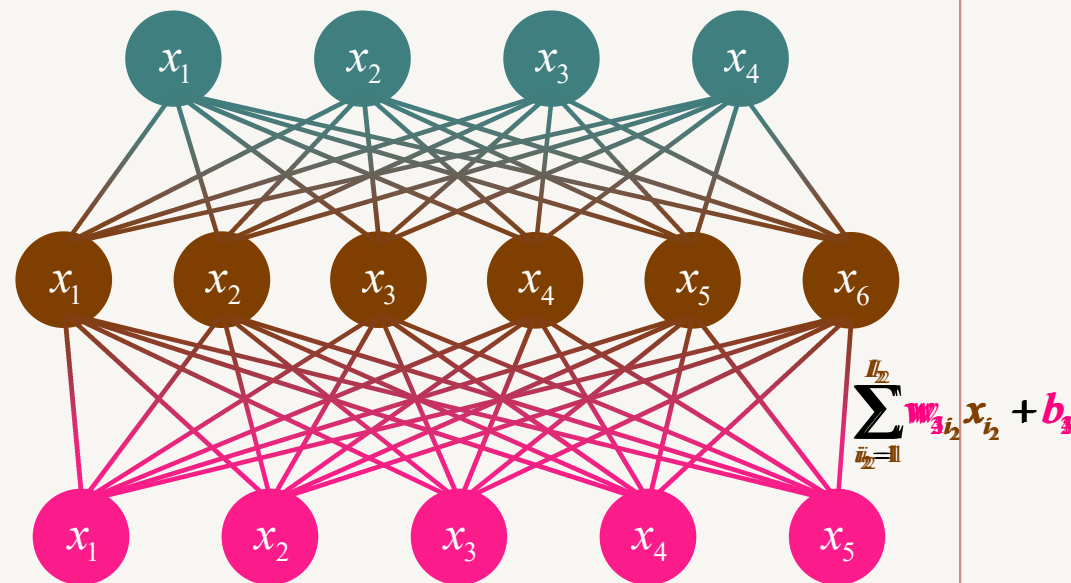


## 无 f 经典 全连接 NNs

$$X_1 = \left\{ x_{i_1} \mid i_1 \in \{1, \dots, I_1\} \right\}^T$$

$$X_2 = \left\{ x_{i_2} = \sum_{i_1=1}^{I_1} w_{i_2 i_1} x_{i_1} + b_{i_2} \mid i_2 \in \{1, \dots, I_2\} \right\}^T$$

$$X_3 = \left\{ x_{i_3} = \sum_{i_2=1}^{I_2} w_{i_3 i_2} x_{i_2} + b_{i_3} \mid i_3 \in \{1, \dots, I_3\} \right\}^T$$



## 无 f 经典 全连接 NNs

$$X_1 = \left\{ x_{i_1} \mid i_1 \in \{1, \dots, I_1\} \right\}^T$$

$$X_2 = \left\{ x_{i_2} = \sum_{i_1=1}^{I_1} w_{i_2 i_1} x_{i_1} + b_{i_2} \mid i_2 \in \{1, \dots, I_2\} \right\}^T$$

$$X_3 = \left\{ x_{i_3} = \sum_{i_2=1}^{I_2} w_{i_3 i_2} x_{i_2} + b_{i_3} \mid i_3 \in \{1, \dots, I_3\} \right\}^T$$

$$X_4 = \left\{ x_{i_4} = \sum_{i_3=1}^{I_3} w_{i_4 i_3} x_{i_3} + b_{i_4} \mid i_4 \in \{1, \dots, I_4\} \right\}^T$$

