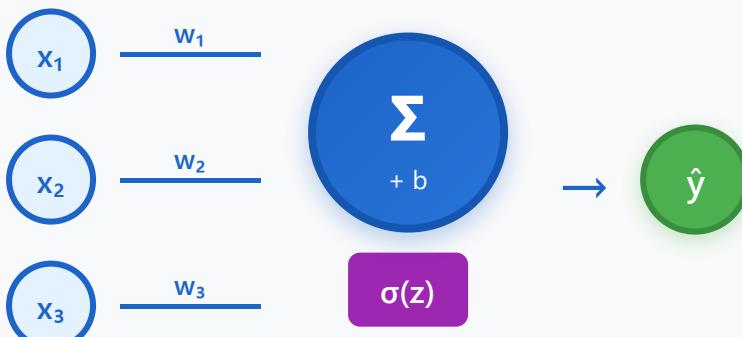


## Single-layer Perceptron Review

### Architecture



### Mathematical Form

#### Linear Combination

$$z = \sum w_i x_i + b$$

#### Activation

$$\hat{y} = \sigma(z)$$

#### Key Components

- **Weights ( $w$ ):** Feature importance
- **Bias ( $b$ ):** Decision threshold
- **Activation ( $\sigma$ ):** Non-linearity

#### ⚠ Limitation

Only learns linear decision boundaries - cannot solve XOR problem