

## Supervised Learning

$$x \rightarrow \boxed{\text{linear}}_{\text{model}} \rightarrow \hat{y}$$

$$\hat{y} = x * w + b$$

### Linear Regression

Find line of best fit for  $(x * w)$  to fit ground truth  $y$

Compute the error to assess how well the LRM did

$$\text{loss} = (\hat{y} - y)^2$$

$(\text{guess} - \text{ground truth})^2$

But there are many loss values so

we used Mean Squared Error

$$\approx \frac{1}{N} \sum_{i=1}^N (\hat{y}_i - y_i)^2$$