⟨ Practical Tips for Linear Regression — Feature Engineering ⟩
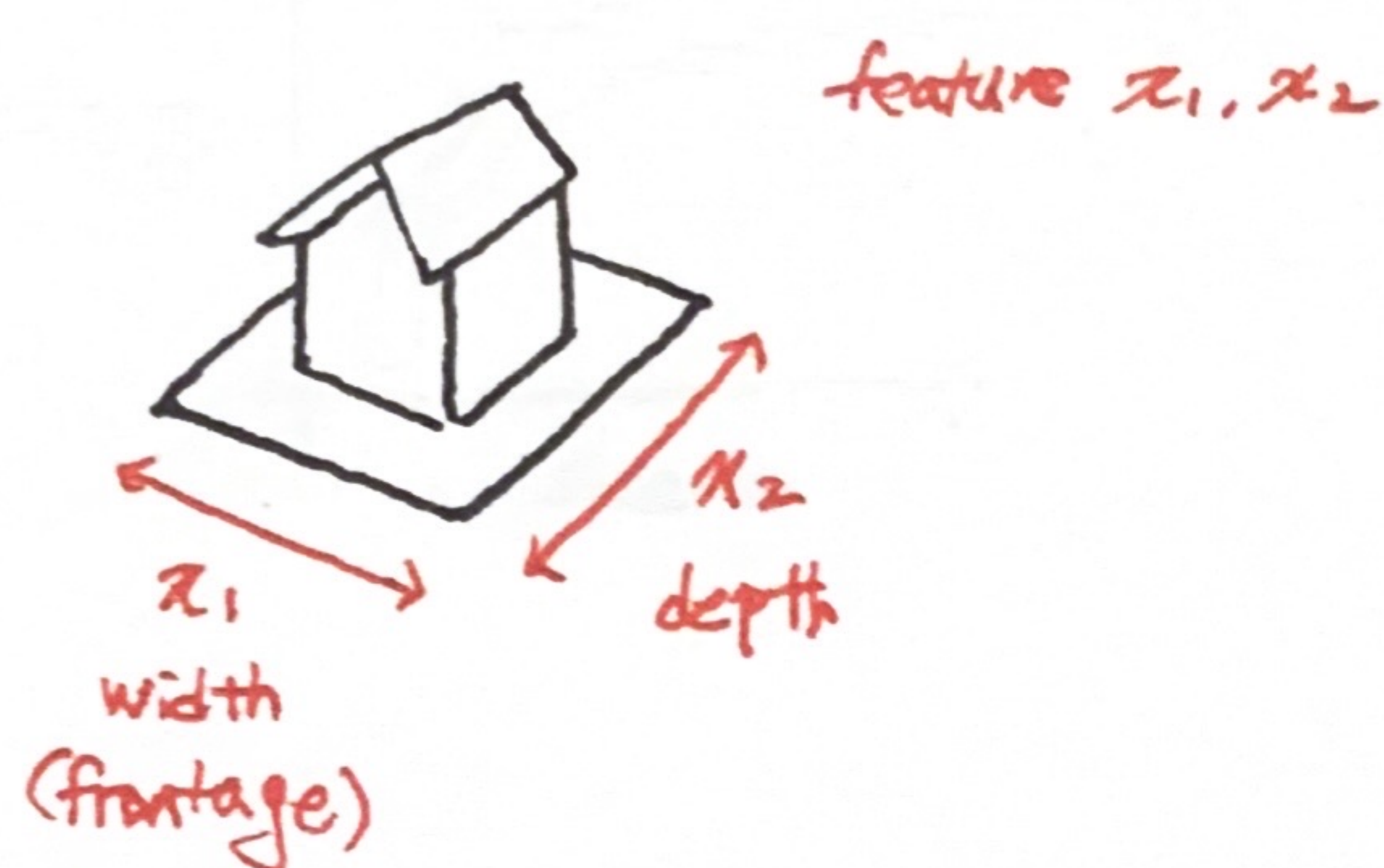
- the choice of features can have huge impact on learning algorithm's performance

ex) Predicting the price of a house

feature x_1, x_2

x_1
width
(frontage)

x_2
depth

Model:

$$\Rightarrow f_{\vec{w}, b}(\vec{z}) = w_1 x_1 + w_2 x_2 + b$$

frontage   depth

* area = frontage × depth

⇓

more predictive of the price than frontage and depth
as seperate features

∴ new feature $x_3 = x_1 \times x_2$,

⇓

New Model:

$$f_{\vec{w}, b}(\vec{z}) = w_1 x_1 + w_2 x_2 + w_3 x_3 + b$$

"Feature Engineering"

: using intuition to design new features. by transforming and combining original feature.