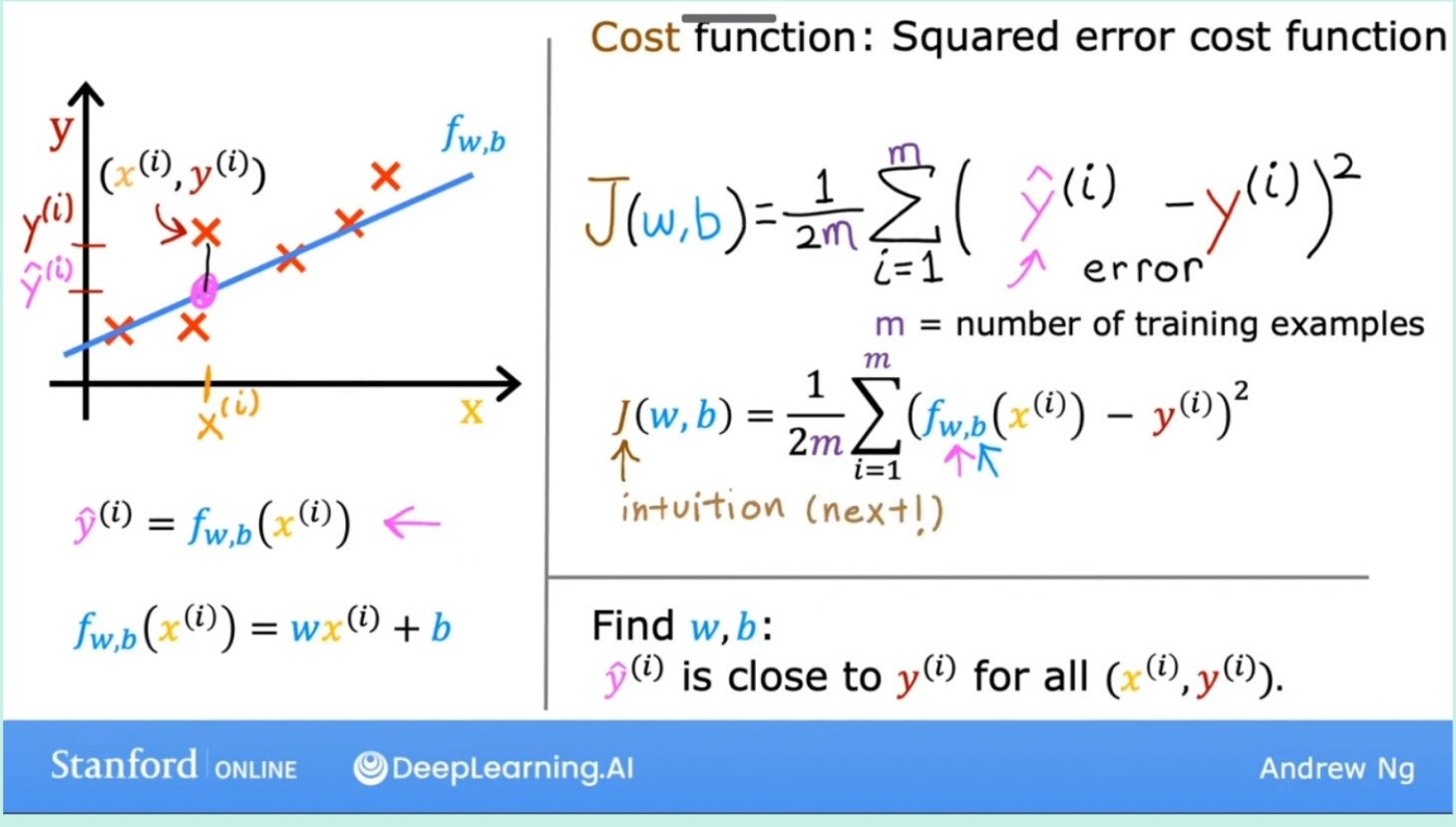
→ The cost function will tell us how well the model is doing

model: $f_{w,b}(x) = wx + b$



→ For every x(i) the model will Predict y(i) based on the linear line that we get.

→ To draw the linear line we need to find the value of w and b.

→ To find the w and b we need the help of cost function.

→ So, it will guess the line by finding the minimum error.

Cost function:

$$J(w,b) = \frac{1}{2m} \sum^{m} \underbrace{\left(\hat{y}^{(i)} - y^{(i)}\right)^2}_{\text{error}}$$

average

for extra neat

for all training data