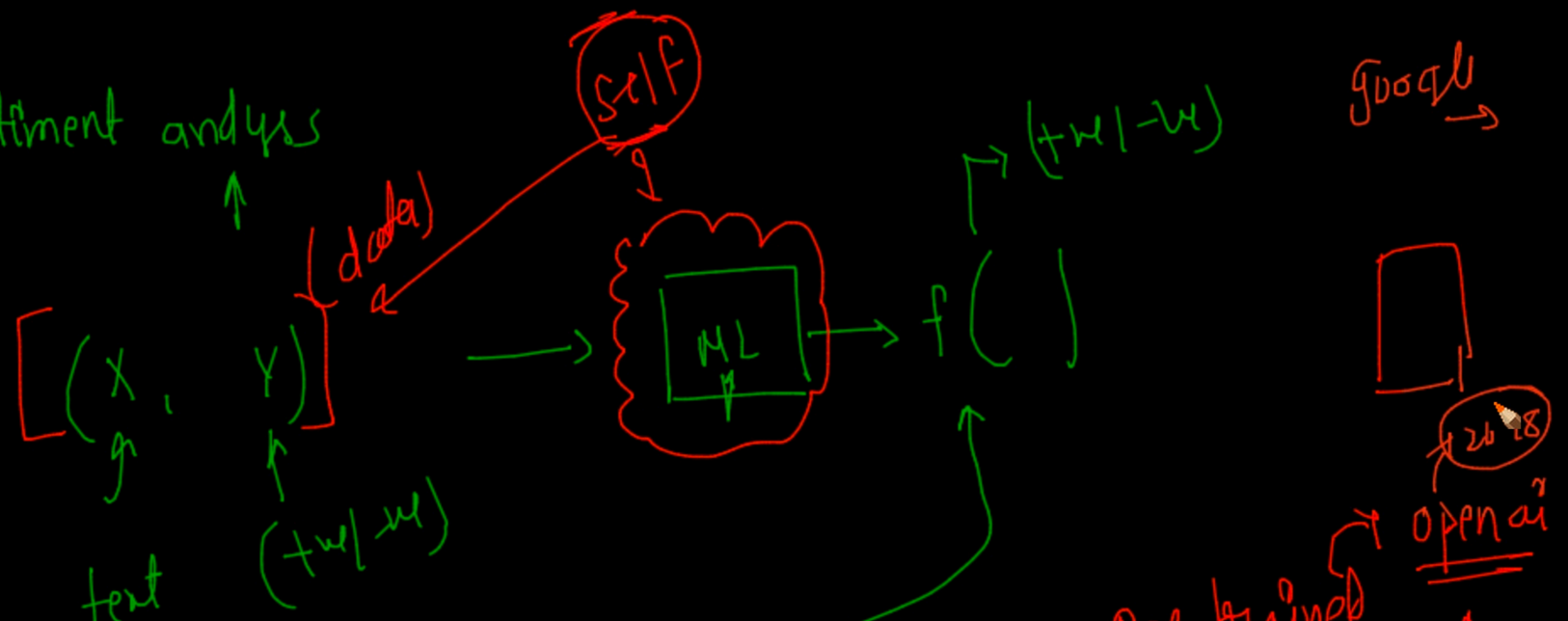
O_x → sentiment analysis



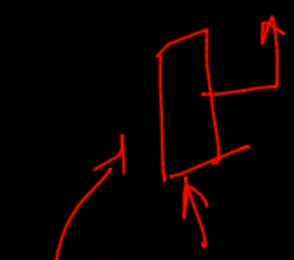
Google →

openai

pre-trained

Softw ... ML

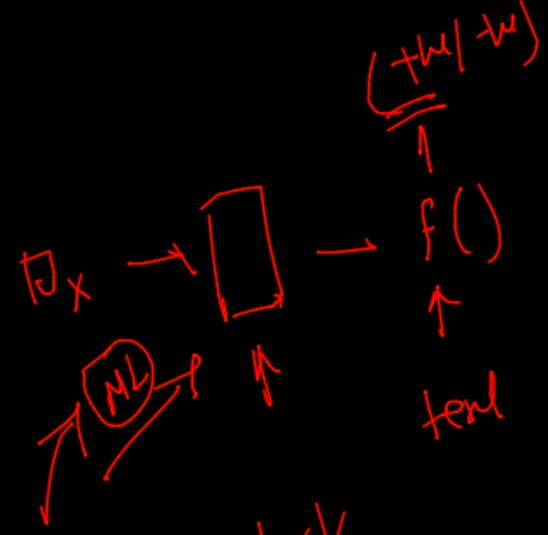
data → amazn → limited



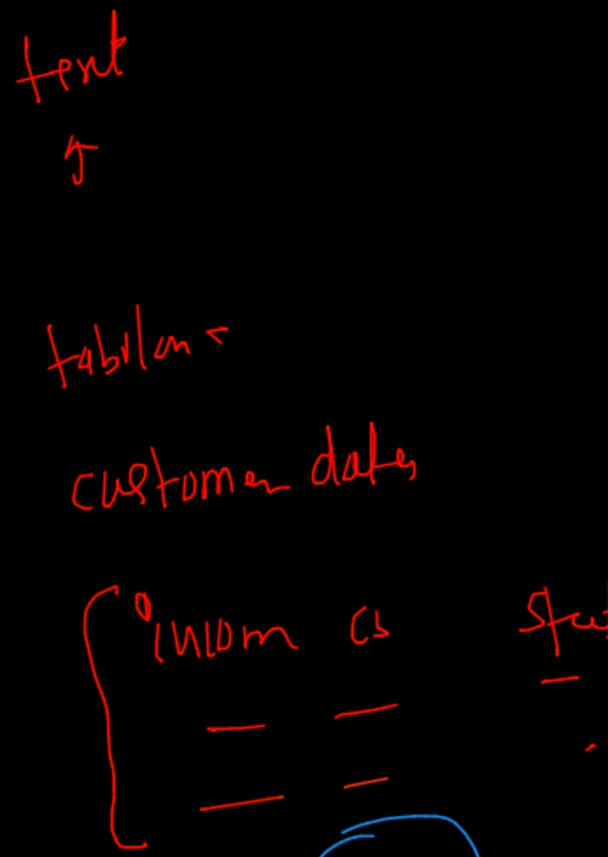
" task specific

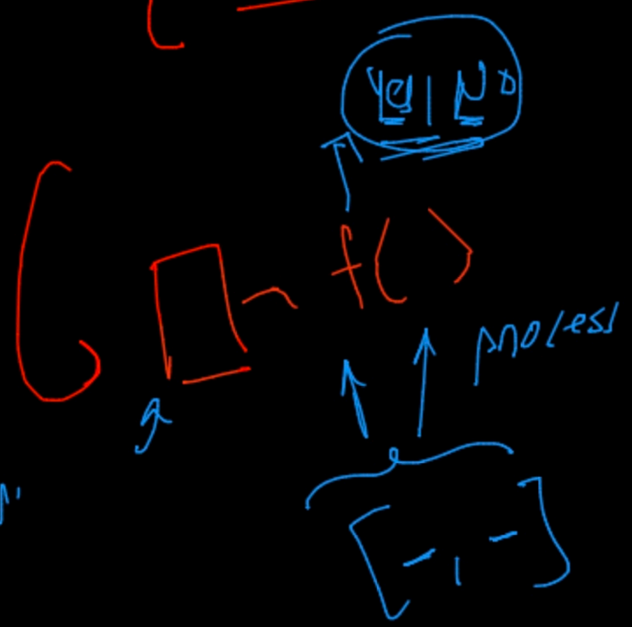
huggingface → model

sklearn


(+ve/-ve)
f()
text
ML
task


ChatGPT
AI


text
tabular
customer data
ML
simple model


f()
process
'NN'

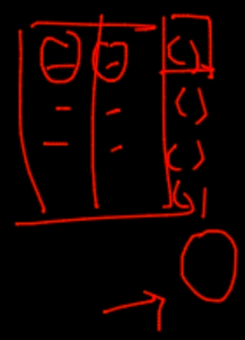

Activation fn
(0.7)
Σ wT . xi (0.7)
[3*0.2 + 2*0.1]
Layers → 2
Neurons → 6
X1 X2 Y
3 2 Y
4 5 N
x11
xi2
3
2
0.8
(0.7)
Output layer
log-loss
Feed forward
R-L
backpro
(2x1)
18
(3x2) → 6
2x3 → 6
Random
learning rate
0.54
epochs → log-loss →0.54

Step1 Define loss fn ⟶ Classification → log-loss
↓ → cross-Entropy

$$L = \sum_{i=1}^{n} (y_i - \hat{y}_i)^2 + reg$$

Regression
↑
Square-loss
↓

$$\sum_{i=1}^{n} (y - \hat{y})^2$$



Step2 : optimization
↑

$$\min_{w} \sum_{i=1}^{n} (y_i - \underbrace{w^T x_i}_{\uparrow})^2 + reg$$

$f(w^T x_i)$
↑ Linear regress → identity

Step3 Solve optimisation problem using SGD

(3.1) Initialize w_i → random initialization

(3.2) Compute $\nabla_{wL} =$

(3.3)

$$w_{new} = w_{old} - \eta \left[\nabla_{wL} \right]_{w_{old}}$$

η ↑ 0.64 ↓

learning

$$(w_{inew}) = w_{old} +$$

A new page has been created.

$w = 0$

$y = 2 * x$ (3)

$w^T \cdot x_i$

$y = 2 * 1$

2.1

$0 \cdot 1 \rightarrow 0$

x	y	ŷ	error
1	2	0	-2
2	4 ✓		
3	6		

update the weight

$w = 2.25$