

# Session-10

# AUTOENCODERS

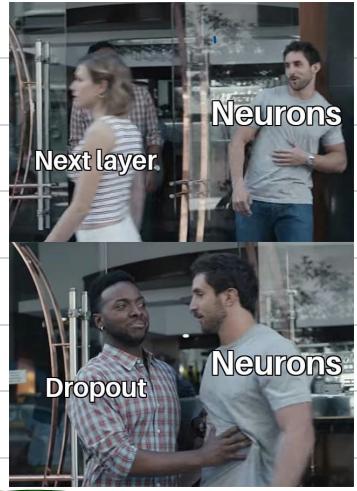
Feb 28, 2024

When they asked you to clean the data and you cleaned all of it.



## AGENDA

- ① Recap
- ② Auto Encoders
- ③ Concerns → Interview  
→ Syllabus  
  
    Project → 2-3 days



①

Matrix  $\rightarrow$  worth random no.

[25] [epoch = 10]

②

batch size & epoch.

100

③

converge faster

default M itwr

④

Softmann.

Shuffle = true

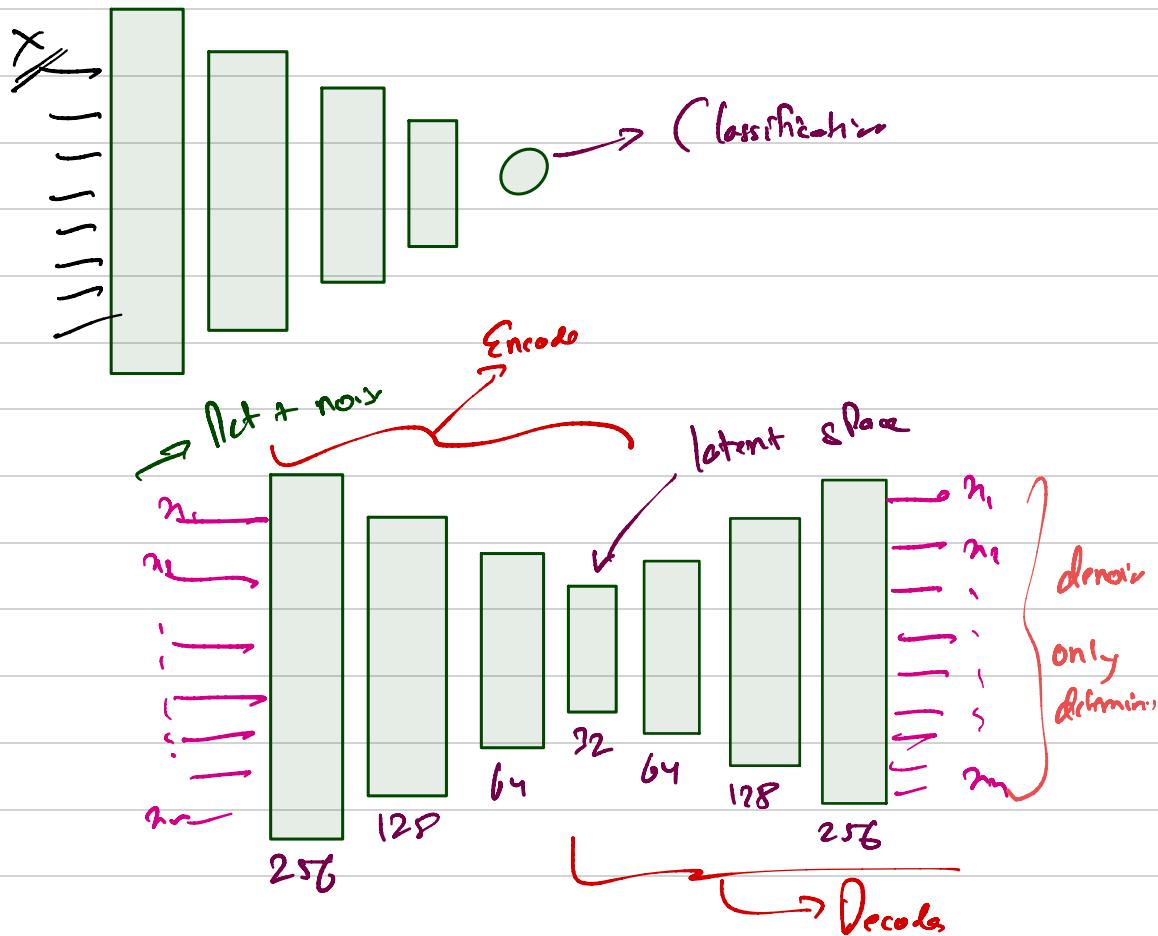
JIT

⑤

np.random.uniform(0, 1) = a

$\left[ \begin{array}{l} a \text{ for } i \text{ in range } 2 \text{ for } j \text{ in range of } \end{array} \right]$

# WHAT IS AUTO ENCODER



Dataset - Deterministic Pattern + Noise

$f(x)$  → mathematical fun / Universal function approximator

$1 + 0.00\%$

$2 \times 0.00\%$

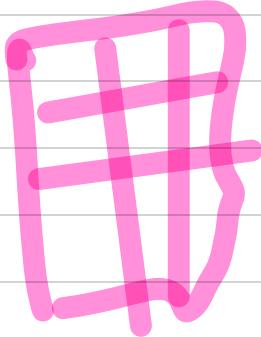
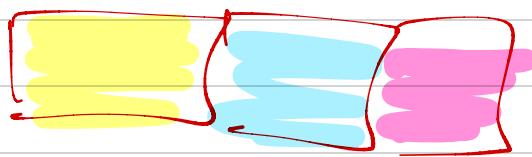
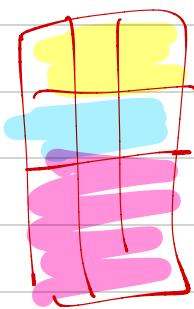
$3 + 0.00\%$

for

1  
4  
3

not on mm

Auto encor.



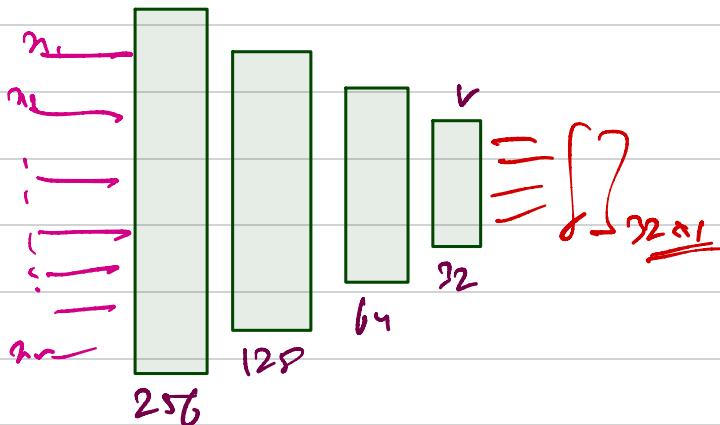
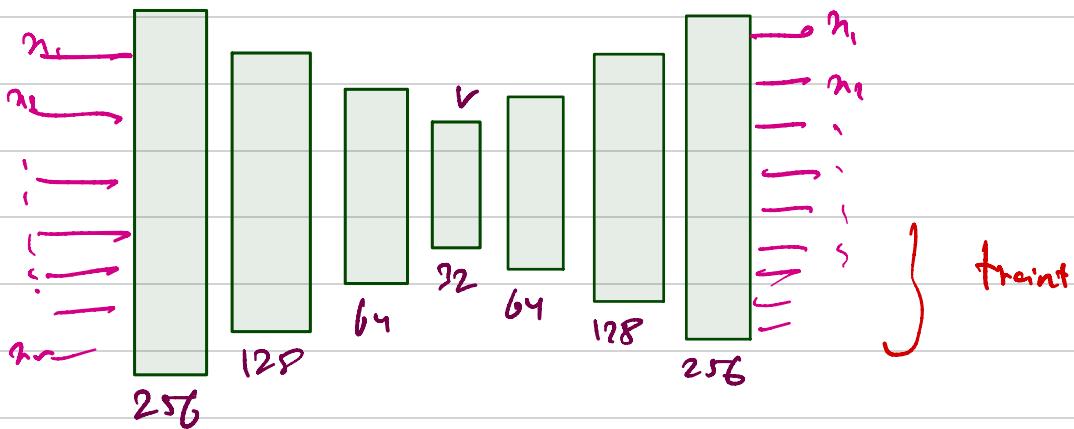
# Unsupervised

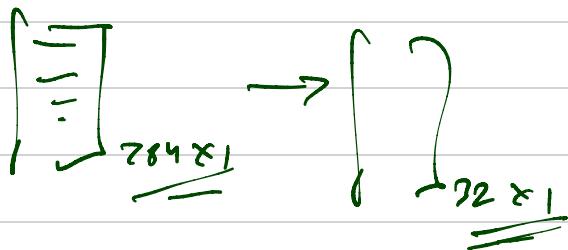
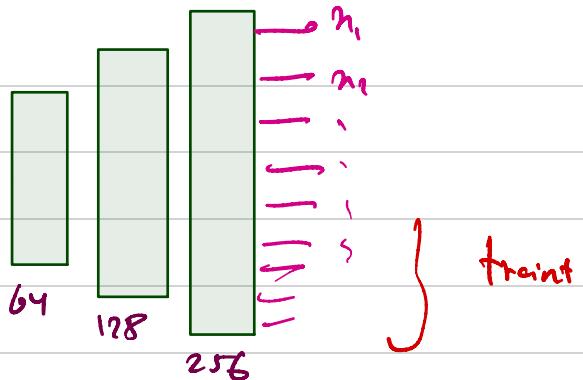
AutoEncoder

~~Supervised~~

or

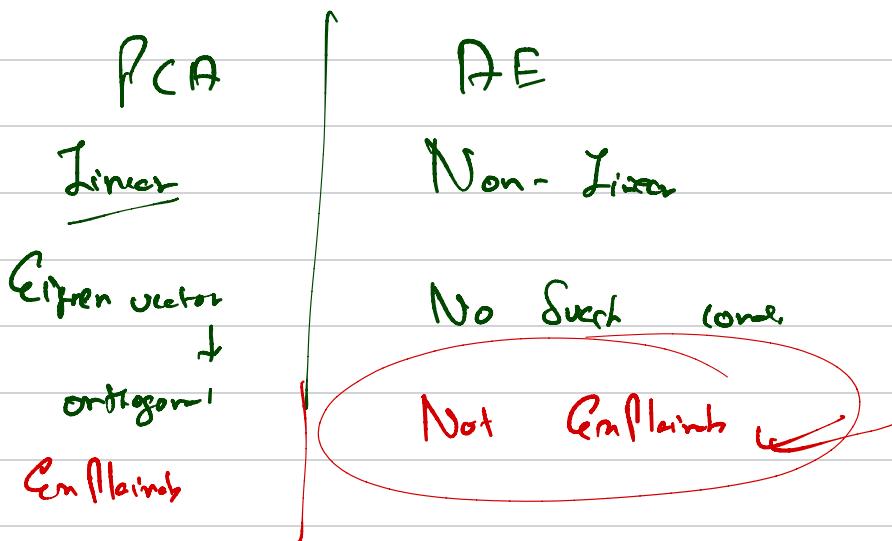
~~Unsupervised ??~~

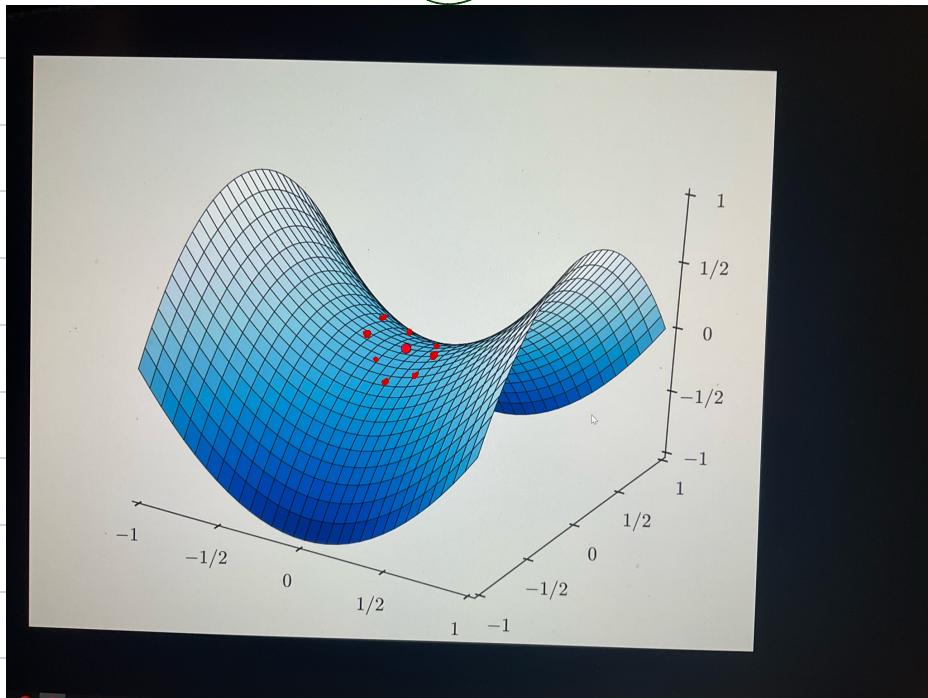
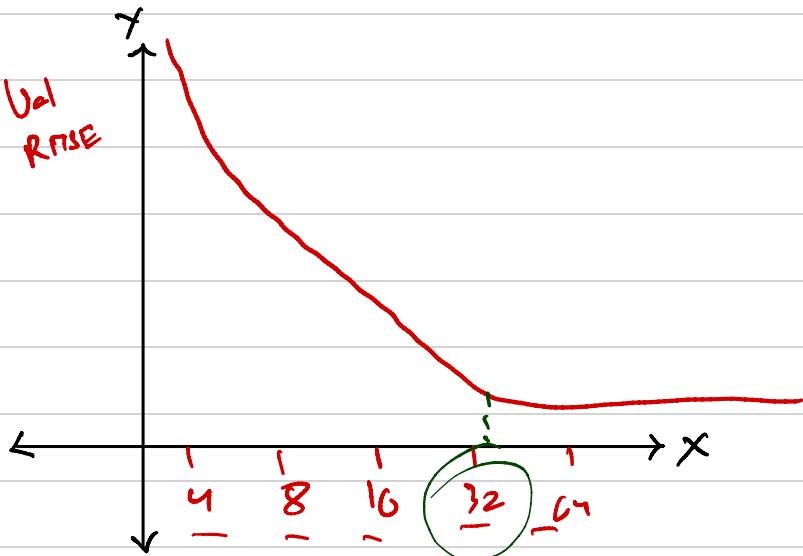




→ Other applications

- ① Recommend System
- ② Dimensionality Red.





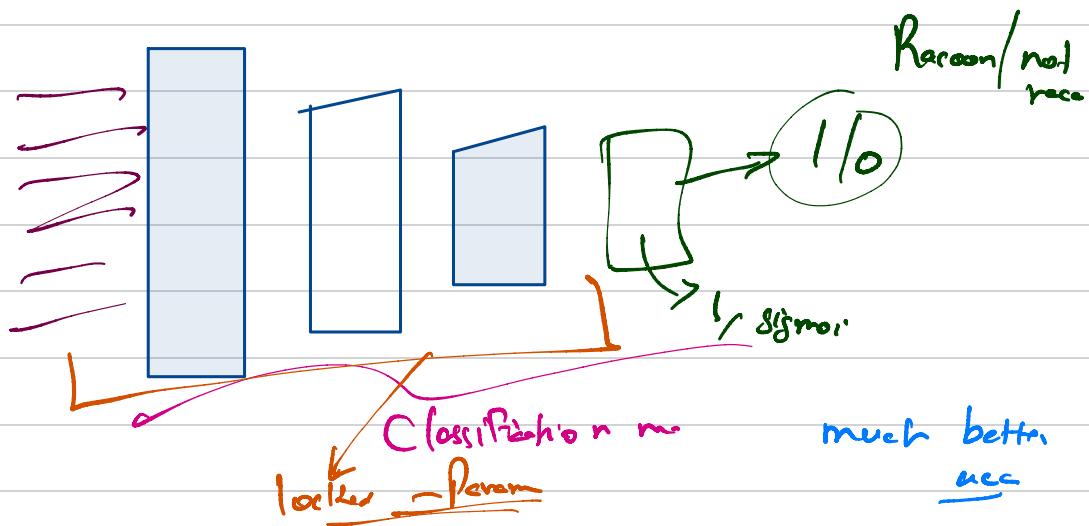
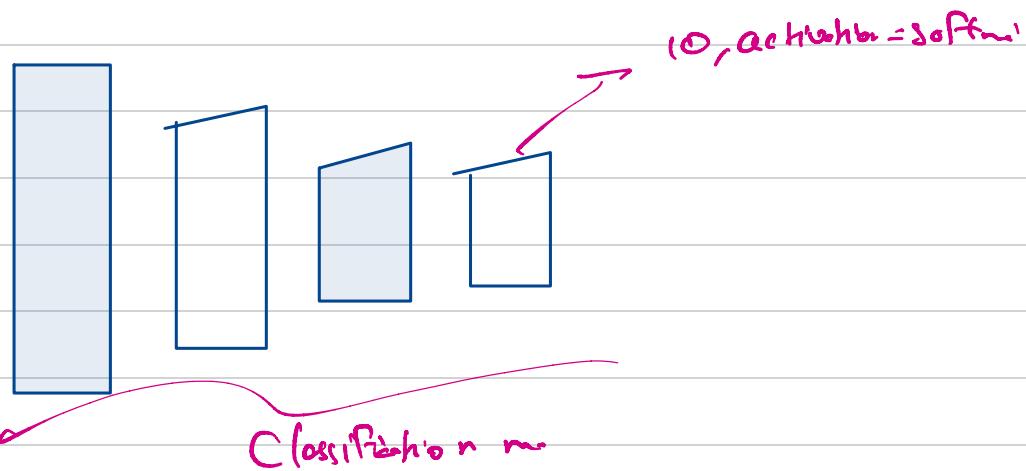
# TRANSFER LEARNING

Classify a

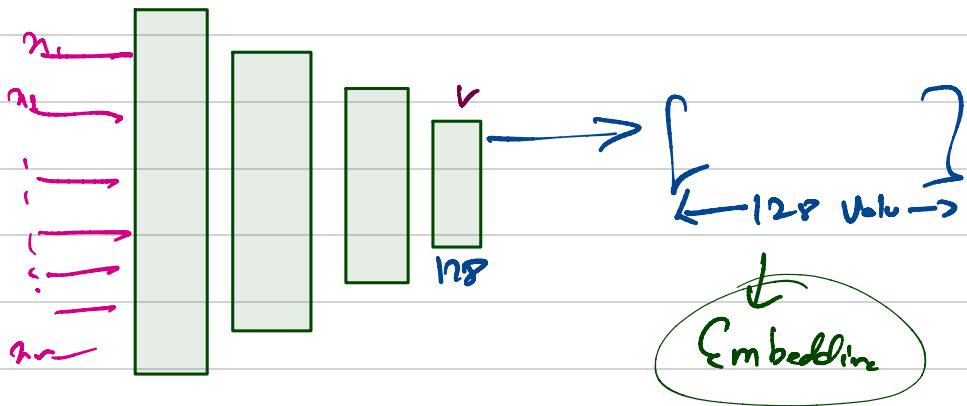
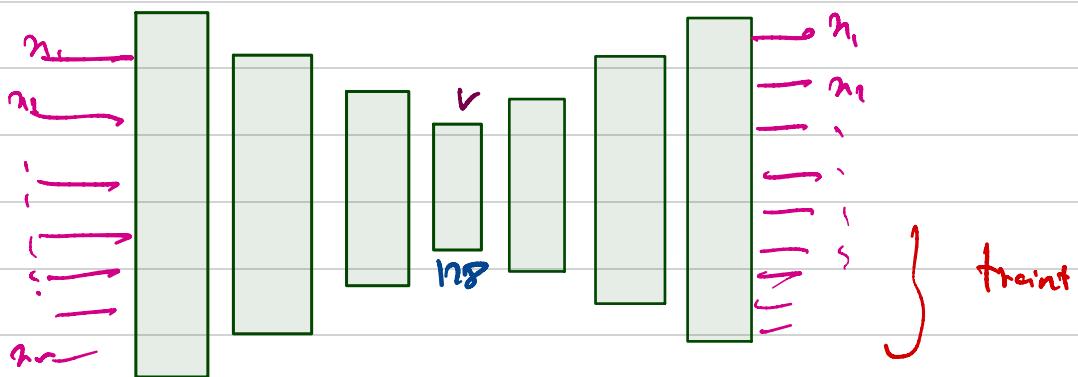
Raccoon

(Raccoon)

→ Take on only Pre-train mode on  
some animalistic data.



# Movie Reco



10235 movies (Similarity each movie with every other movie)

$$10235 \times 10235$$

( $n$ ,  $128$ ) f amherdin )

for  $r$  in range ( $10325$ ):

$\cos(\text{cur}, \underline{\text{mouse}[r]})$

$[668]$   
slope



$[128]$   
not  
as slope

$(\underline{slope})$