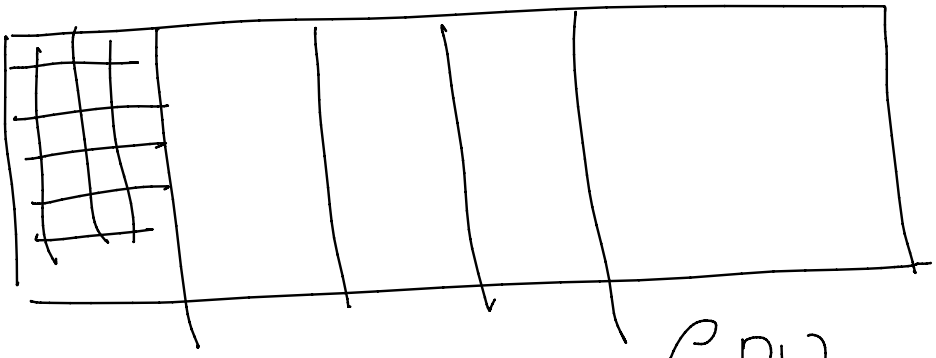
DL-6

01 July 2023 15:59

Agenda

- CNN code
- RNN
  - Structure
  - Types of RNN
  - RNN code

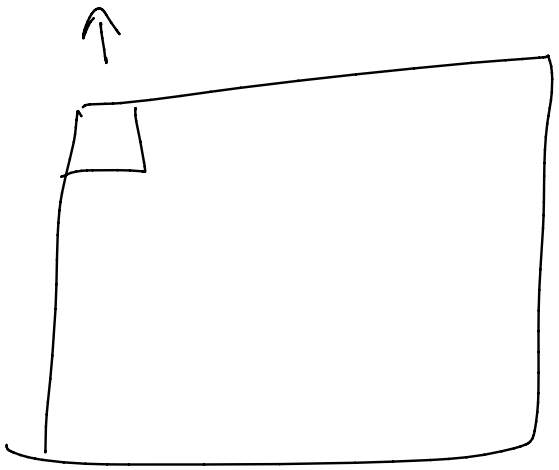


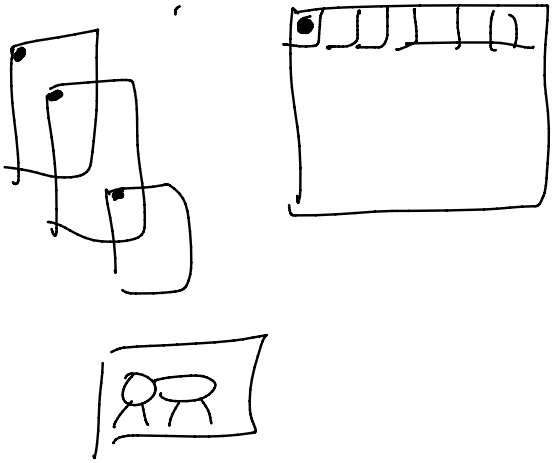
ANN → GPU

df < tr / te

model
fit
predict
evaluate

0-255

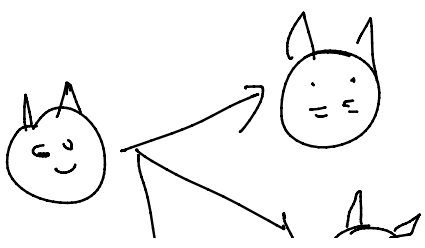




✓ CNN ⇒ large # samples

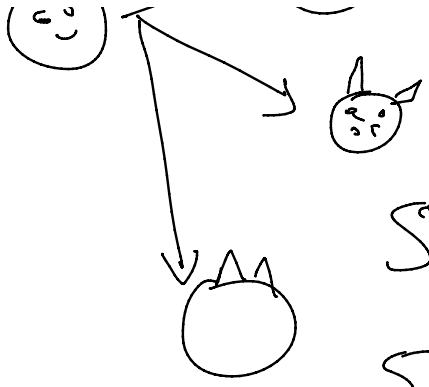
1 → 100s

↓ rotate ⌐ 30, 40, 50



→ 1°, 2°, 3° ···· 180° ··· 360°

zoom ⌐



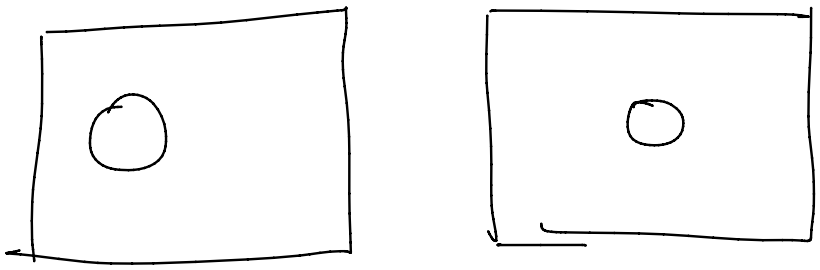
Zoom;

h. flip, v. flip

shifting Rt. or Left

50K

50K ⇒ 150K 50K ⇒ 250K



Recurrent N.N. (RNN)

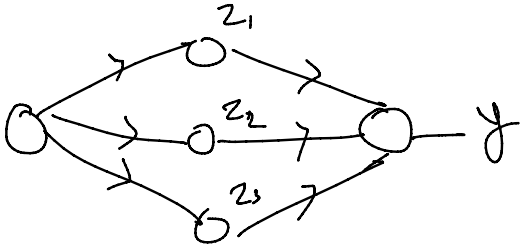
ML, DL

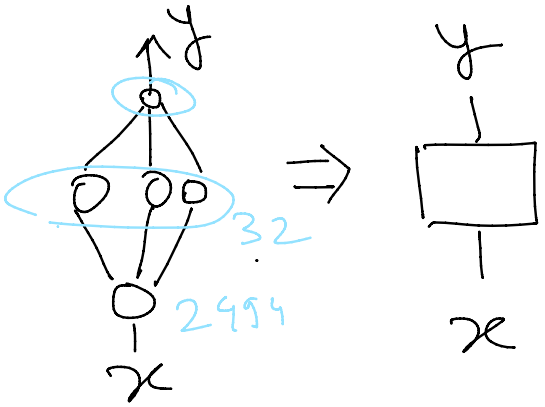
I/P size, O/P size

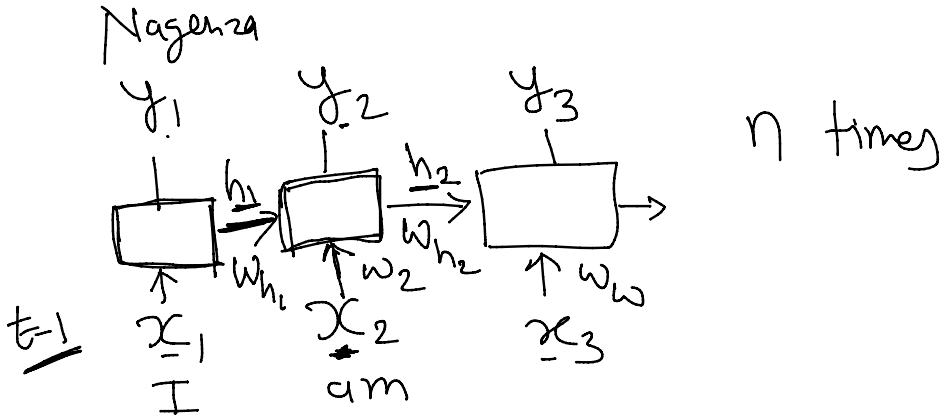
5 features 1 O/P

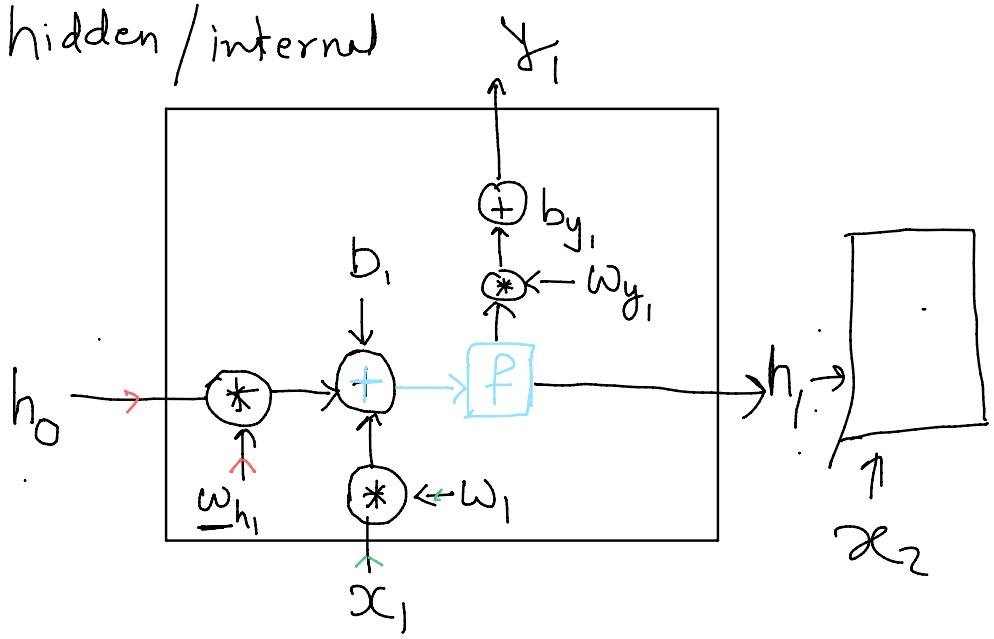
784,3000 features 1 O/P

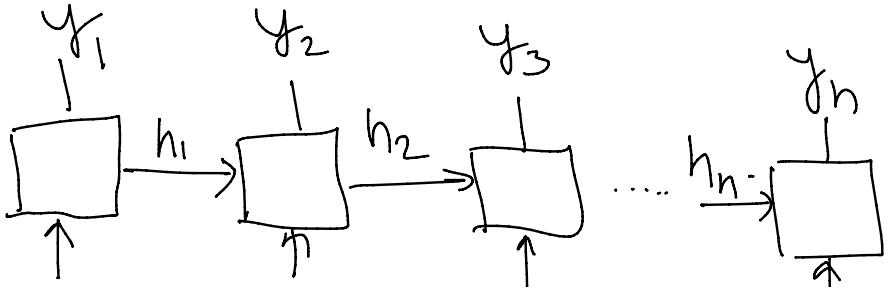
language translation

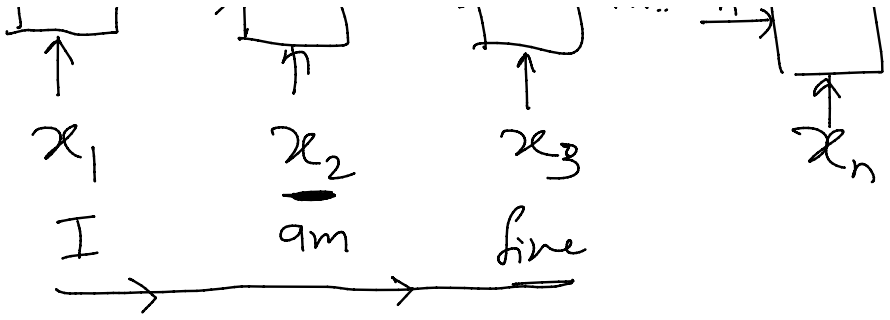


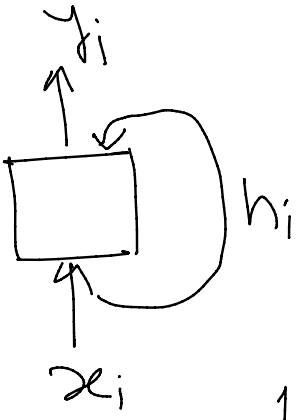

y
32
2494
x
y
x


Nagenra
y1
y2
y3
h1
h2
wh1
w2
wh2
ww
x1
I
x2
am
x3
t=1
n times


hidden / internal
y1
by1
wy1
b1
f
h0
h1
wh1
w1
x1
x2

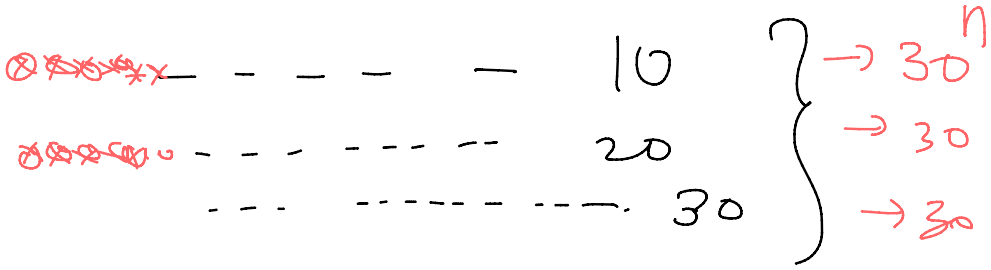

y1
y2
y3
yn
h1
h2
hn-1
n





1 0

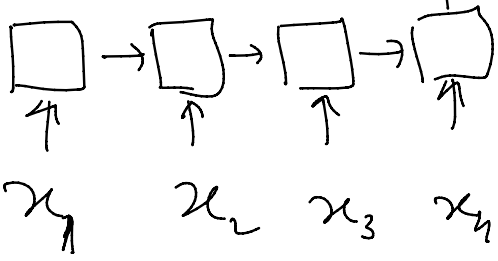
+ve/-ve



Types of RNN

many-one (seq. to vector)

rating / sentiment



x) One to many (vector to seq)

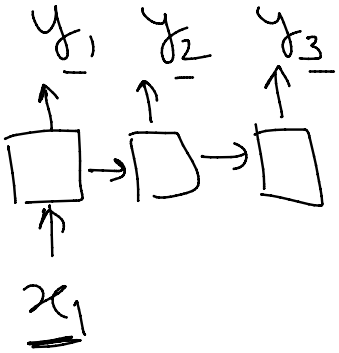
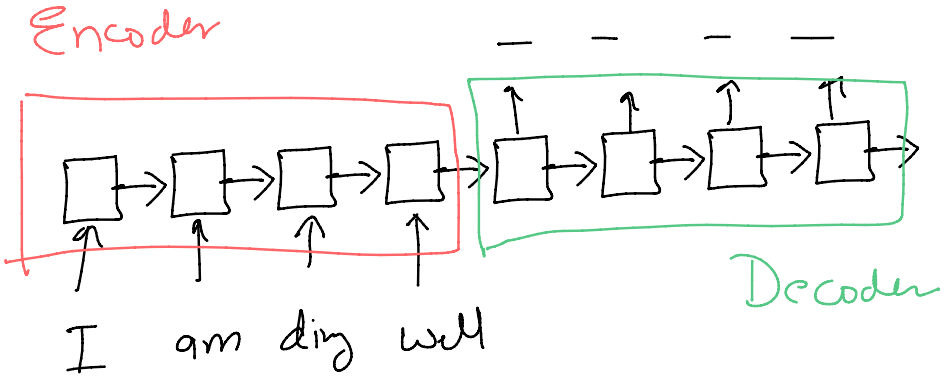


Image caption

x) Many - many (seq. - seq)



GPT

ANN

- A.N.
  - i/p, wt, S.F., AF
  - F.P.
    - Matrix mul. of $X \cdot W^T + B$
  - B.P.
    - G.D $w_n = w_o - \eta \frac{\partial E}{\partial w_o}$