Class0_04.02.2023_ANN

May 6, 2023

Deep Learning It is a subset ML.

ML workflow -

1. Getting the data
2. Performing EDA , feature extraction
3. Training the model
4. Output

DL Workflow

1. Getting the data
2. Feature extraction/training the model
3. Output

Reinforcement learning -

1. Penalty
2. Loss
3. Bias

DL Data types -

1. Images
2. Sounds
3. Unstructred Texts

ANN - Artificail Neural Network Weighted sum/mean

x , y , z = 1 , 2 , 0.5

[1]:
```
import pandas as pd
```

[11]:
```
score = pd.DataFrame(data =␣
 ↪[['joy',1,34,'History'],['joy',2,45,'Geography'],['joy',3,20,'Math']],
columns = ['name','weight','score','subject'])
```

[12]:
```
score.head()
```

[12]:

	name	weight	score	subject
0	joy	1	34	History
1	joy	2	45	Geography

```
2  joy       3     20       Math
```

[13]:
```
# the score sheet is evaluated for the student's engineering exam
summation = sum(score['weight']*score['score'])
print(summation)
```

```
184
```

[14]:
```
w_sum = sum(score['weight'])
print(w_sum)
```

```
6
```

[15]:
```
print(summation/w_sum)
```

```
30.666666666666668
```

[16]:
```
print(score['score'].mean())
```

```
33.0
```

[17]:
```
# deep learning

a = 15
b = 26
c = 13
d = 8
e = 65
f = 15
```

[18]:
```
w_lst = [15,26,13,8,65,15]
```

[24]:
```
for i in w_lst:
    if i>50:
        print(f'{i} considered as an input')
```

```
65 considered as an input
```

layer Diagram

1. input layer
2. Hidden layer 1
3. Hidden layer 2
4. Output Layer

Work without complete knowledge

memory distribution ANN model - 10 minutes interval - 200 TB data (request) - server ANN - 200 neurons - 1 Tb request

Unrecognized behaviour of the network

Parralel processing

Activation Function - Binary Sigmoid

Types Of ANN Feedback ANN Feed forwad ANN