import numpy as np

import pandas as pd

file=pd.read\_csv("robot\_data\_training.csv")

file

from sklearn import model\_selection

X=file.iloc[:,-1].values/100

Y=file.iloc[:,:2].values/100

# yo=to\_categorical(Y)

# print(Y)

xtrain,xtest,ytrain,ytest=model\_selection.train\_test\_split(X,Y,test\_size=0.1,random\_state=42)

xtrain=xtrain.reshape(-1,1)

xtest=xtest.reshape(-1,1)

vlt=ytrain[:,0]

vrt=ytrain[:,1]

vlt.shape

vlte=ytest[:,0]

vrte=ytest[:,1]

def createA(x, D):

A=[]

for e in x:

ls=[]

for i in range (D+1):

# print('i=',i)

ls.append((float)(np.power(e,i)))

A.append(ls)

# print(A)

return np.asarray(A)

def train\_w(A, yd):

w=np.linalg.inv(A.T.dot(A)).dot(A.T).dot(yd)

return w

def compute\_mse(y, yd):

mse=[]

mse= 1/len(y)\*(y-yd).T.dot(y-yd)

return mse

def run\_model(x,y):

A=createA(x,3)

w=train\_w(A,y)

prec\_y=A.dot(w)

e=(prec\_y - y).T.dot(prec\_y - y)

# print(prec\_y)

return w

w1=run\_model(xtrain,vlt)

w2=run\_model(xtrain,vrt)

A=createA(xtest,3)

prec\_vl=A.dot(w1)

prec\_vr=A.dot(w2)

print(prec\_vl[:10]\*100)

print(prec\_vr[:10]\*100)

compute\_mse(prec\_vl,vlte)

print(“w1”,w1)

print(“w2”,w2)