| In [1]: | <pre>import numpy as np import pandas as pd</pre> |
|--|--|
| In []: | <pre>from sklearn.linear_model import LogisticRegression</pre> |
| | <pre>df = pd.read_csv('E:\paython\gld_price_data.csv') #Lets have a quick look of dataset df.info()</pre> |
| | <pre><class 'pandas.core.frame.dataframe'=""> RangeIndex: 2290 entries, 0 to 2289 Data columns (total 6 columns):</class></pre> |
| | # Column Non-Null Count Dtype |
| | 3 USO 2290 non-null float64 4 SLV 2290 non-null float64 5 EUR/USD 2290 non-null float64 dtypes: float64(5), object(1) |
| In []: | memory usage: 107.5+ KB FULL FORMS: 1) SPX- STANDARD AND POOR INDEX 2) GLD- GOLD 3) USO- UNITED STATES OIL FUND |
| In [4]: | 4) SLV- SILVER 5) USD- DOLLAR |
| Out[4]: | #Lets study the Statistical Inferance of the dataset df.describe() SPX GLD USO SLV EUR/USD |
| | count 2290.000000 2290.000000 2290.000000 2290.000000 mean 1654.315776 122.732875 31.842221 20.084997 1.283653 std 519.111540 23.283346 19.523517 7.092566 0.131547 |
| | min 676.530029 70.000000 7.960000 8.850000 1.039047 25% 1239.874969 109.725000 14.380000 15.570000 1.171313 |
| | 50% 1551.434998 120.580002 33.869999 17.268500 1.303297 75% 2073.010070 132.840004 37.827501 22.882500 1.369971 max 2872.870117 184.589996 117.480003 47.259998 1.598798 |
| In [7]: | #Now see the correlation matrix and heatmap import matplotlib.pyplot as plt import seaborn as sns |
| | <pre>corr = df.corr() plt.figure(figsize = (6,5)) sns.heatmap(corr,</pre> |
| Out[7]: | annot=True, fmt='.2f', linewidths=0.30) plt.title('Correlation of df Features', y = 1.05, size=15) Toyt(0.5, 1.05, Correlation of df Features') |
| oue[/j. | Correlation of df Features |
| | $\frac{2}{6}$ - $\frac{1.00}{0.05}$ - $\frac{0.59}{0.05}$ - $\frac{0.27}{0.05}$ - $\frac{0.67}{0.05}$ |
| | 으로 - 40.59 - 40.19 1.00 0.17 0.83 - 0.2 - 0.0 |
| | ≥0.27 0.87 0.17 1.00 0.320.2 |
| | SPX GLD USO SLV EUR/USD0.6 |
| In []: In [9]: | #Lets look the correlation score |
| | <pre>print (corr['GLD'].sort_values(ascending=False), '\n') GLD</pre> |
| | EUR/USD -0.024375 USO -0.186360 Name: GLD, dtype: float64 |
| In [10]: | <pre>#Lets Check our target variable sns.distplot(df['GLD'], color = 'blue') print('Skewness: %f', df['GLD'].skew()) print("Kurtosis: %f" % df['GLD'].kurt())</pre> |
| | C:\Users\Raj\AppData\Local\Programs\Python\Python39\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated funct ion and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `h istplot` (an axes-level function for histograms). |
| | warnings.warn(msg, FutureWarning) Skewness: %f 0.3341383472692508 Kurtosis: -0.275081 |
| | 0.030 - |
| | 0.020 - P |
| | 0.005 - 60 80 100 120 140 160 180 200 |
| In [11]: | GLD |
| Out[11]: | reachers evicewid leistonid at 0v0FC670ff1e0 |
| | 180 |
| | 160 |
| | 140 - 9 120 - |
| | 120 - |
| | 80 - 10 15 20 25 30 35 40 45 |
| In [12]: | #Now we check the relation with GLD variable sns.jointplot(x =df['SPX'], y = df['GLD'], color = 'purple') |
| Out[12]: | <pre>sns.jointplot(x =df['SPX'], y = df['GLD'], color = 'purple')</pre> |
| | |
| | 180 - |
| | 140 - |
| | |
| | 100 - 80 - |
| | 1000 1500 2000 2500 SPX |
| In [13]: | <pre># Now lets take our matrix of feature and target x_trail = df[['SPX','USO','SLV','EUR/USD']] x = x_trail.iloc[:, :].values</pre> |
| In [14]: | <pre>y = df.iloc[:, 2].values #Spliting the dataset into training and test set from sklearn.model_selection import train_test_split</pre> |
| In [20]: | <pre>x_train, x_test, y_train, y_test = train_test_split(x, y, test_size = 0.2, random_state = 0) #Now fitting the Random forest regression to the training set from sklearn.ensemble import RandomForestRegressor regressor = RandomForestRegressor(n_estimators = 100, random_state = 0)</pre> |
| Out[20]: | regressor.fit(x_train, y_train) Pandam Forest Regressor(rendem_state=0) |
| In []: In []: | |
| | <pre>y_pred = regressor.predict(x_test)</pre> |
| In [22]: | <pre>#Now Check the error for regression from sklearn import metrics print('MAE :'," ", metrics.mean_absolute_error(y_test,y_pred)) print('MSE :'," ", metrics.mean_squared_error(y_test,y_pred))</pre> |
| | <pre>print('RMAE :'," ", np.sqrt(metrics.mean_squared_error(y_test,y_pred))) MAE : 1.297793151724892 MSE : 5.16257387057774 RMAE : 2.272129809358994</pre> |
| In []: In [17]: | |
| | <pre>accuracy_test = regressor.score(x_test, y_test) print(accuracy_test) 0.9984324726699736</pre> |
| | 0.3304324120033130 |
| In [23]: | <pre>0.9899648553789232 #Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal')</pre> |
| In [23]: | <pre>0.9899648553789232 #Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal') plt.plot(y_pred, color = 'deeppink', label = 'Predicted') plt.grid(0.3) plt.title('Acutal vs Predicted') plt.xlabel('Number of Oberservation')</pre> |
| In [23]: | <pre>#Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal') plt.plot(y_pred, color = 'deeppink', label = 'Predicted') plt.grid(0.3) plt.title('Acutal vs Predicted')</pre> |
| In [23]: | #Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal') plt.plot(y_pred, color = 'deeppink', label = 'Predicted') plt.grid(0.3) plt.title('Acutal vs Predicted') plt.xlabel('Number of Oberservation') plt.ylabel('GLD') plt.legend() plt.show() Acutal vs Predicted Acutal vs Predicted |
| In [23]: | #Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal') plt.plot(y_pred, color = 'deeppink', label = 'Predicted') plt.grid(e.3) plt.title('Acutal vs Predicted') plt.xlabel('Number of Oberservation') plt.ylabel('5LD') plt.legend() plt.show() Acutal vs Predicted Acutal vs Predicted |
| In [23]: | #Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal') plt.plot(y_pred, color = 'deeppink', label = 'Predicted') plt.slaprid(e,3) plt.title('Acutal vs Predicted') plt.xlabel('Number of Oberservation') plt.ylabel('GLD') plt.slow() Acutal vs Predicted Acutal vs Predicted Acutal vs Predicted Acutal vs Predicted |
| In [23]: | #Visualising the Accuracy of Predicted result plt.plot(y_test, color = 'oleepink', label = 'Predicted') plt.grid(e.3) plt.title('Acutal vs Predicted') plt.ylabel('Suth vs Predicted') plt.legend() plt.show() Acutal vs Predicted Acutal vs Predicted Acutal vs Predicted Mumber of Obersevation acutal vs Predicted' Mumber of Obersevation acutal vs Predicted |
| | e.9899648553789232 **PVisualising the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acutal') plt.plot(y_test, color = 'deeppink', label = 'Predicted') plt.grid(0.3) plt.vlabel('Acutal vs Predicted') plt.vlabel('Gut') plt.legend() plt.show() **Acutal vs Predicted** * |
| In [34]: In [52]: | <pre># O.989648553789232</pre> ### Wiswalising the Currecy of Predicted result plt.plot(v.test, color = 'blue', label = 'Acutal') plt.plot(v.yred, color = 'deeppink', label = 'Predicted') plt.grid(0.3) plt.title('Acutal vs Predicted') plt.xlabel('dlub') plt.ylabel('dlub') plt.show() #### Acutal vs Predicted ################################### |
| In [34]: In [52]: In []: In []: In []: | ## Section of Characteristics of the Accuracy of Predicted result ## Pit.plot(y_test, color = 'blue', label = 'Accuracy') ## Pit.plot(y_test, color = 'deeppink', label = 'Predicted') ## Pit.grid(o, S) ## Pit.title('Accural vs Predicted') ## Pit.title('Accural vs Predicted') ## Pit.title('Gis') ## Acutal vs Predicted ## Acutal vs Pre |
| In [34]: In [52]: In []: In []: In []: In []: | 0.989964855780222 ##SISHALISSING the Accuracy of Predicted result plt.plot(y_test, color = 'blue', label = 'Acural') plt.plot(y_test, color = 'deeppin', label = 'Predicted') plt.ylabel('sumber of Oberservation') plt.ylabel('sumber of Oberservation') plt.show() Acutal vs Predicted |
| In [34]: In [52]: In []: In []: In []: In []: In []: In []: | ### Accuracy of Predicted result |
| In [34]: In [52]: In []: | 0.959964553780232 PVISORIEUM D. Accuracy of Predicted Posoli PVISORIEUM D. Accuracy of Predicted Posoli PVISORIEUM D. Accuracy of Predicted Pre |
| In [34]: In [52]: In []: | 0.950969535780232 Pitcality bear control of 'medicind result' pitcality_sets; rotor = 'blue', label = 'Predicted') pitcality_sets; rotor = 'blue', label = 'Predicted') pitcality_sets; rotor = 'deeppin', label = 'Predicted') pitcality_sets pitcality_sets Acoutal vs Predicted Acoutal |
| In [34]: In [52]: In []: | D. BERNESHMANT PROTOST Price and Lines by the Americancy of Privalizated result philipling trees, calor = "Industry, lated a "Jeanal") plit plit (19.2) plit prival(19.3) plit prival(19.3) plit prival(19.3) plit prival(19.3) plit (19.3) plit (19. |
| In [34]: In [52]: In []: | # General State (Color = "State", label = "Rockatt") pit. ale(cypest, color = "State", label = "Predicted") pit. ale(cypest, color = "State", label = "State", label = "Rockatt') pit. ale(cypest, color = "State", label = "Rockatt') pit. ale |
| In [34]: In [52]: In []: | ### Stand Stang Chie Accordary of Predicted result pit-pin(s) total, color = "feetings", label = "Predicted") pit-pin(s) total, color = "feetings", label = "Predicted") pit-pin(s) total vs revicited") pit-pin(s) total vs revicited") pit-pin(s) total vs revicited") pit-shade("(a-b")) pit-shade("(a- |
| In [34]: In [52]: In []: | 0. deSendantial to the incurrency of Medicined (modification) pit pincy princip and one of "desendantial") pit pincy princip and one of "desendantial") pit pincy princip and one of "desendantial") pit video ("desendantial") pit video ("d |
| In [34]: In [52]: In []: | ### Advantage for the Accordancy of Procession result ### In Processing the Accordancy of Procession result ### In Processing the Accordancy of Procession result ### In Processing the Accordancy of Processing the Processing the Intelligence of Proc |
| In [34]: In [52]: In []: | ## Comparison of Processing Comparison of Proc |
| In [34]: In [52]: In []: | 3.4504665970221 (Private Just, astrone a state (main), these = "agrant") (Private Just, astrone a state (main), these = "agrant") (Private Just, astrone a state (main), these = "agrant") (Private Just, astrone a state (main)) (Private Just, |
| In [34]: In [52]: In []: | Description of the American of Production country |
| In [34]: In [52]: In []: | According to the flower grant of the standard creatify program to the standard creatify program tof |
| In [34]: In [52]: In []: | Extending to the security of protection result. (b) Activities (caller activities activ |
| In [34]: In [52]: In []: | III. A SECRETARY SERVICE AND A |
| In [34]: In [52]: In []: | H. GERMANNIA (L. M. GER |
| In [34]: In [52]: In []: | Substanting to secretary of evolution record In part of process of the "designation" local in Secretary () In part of the secretary of the "designation" local in Secretary () In clear of the secretary of the secretary () In clear of the secretary of the secretary () In clear of the secretary of the secretary () In clear of the secretary of the secretary () In clear of the secretary of the secretary () In clear of t |
| In [34]: In [52]: In []: In []: | Support State of Stat |
| In [34]: In [52]: In []: | Accordance to the control of the con |
| In [34]: In [52]: In []: In []: | The state of the s |
| In [34]: In [52]: In []: In []: | **Contraction of the Contract of American Contract On Con |
| In [34]: In [52]: In []: In []: | Submitted and Antonia in Contained (2015) Contained Contai |
| In [34]: In [52]: In []: In [] | Controlled to the second of th |
| In [34]: In [52]: In []: In []: | Account of the property of the |
| In [34]: In [52]: In []: In | Action Control |
| In [34]: In [52]: In []: In [] | Constitution (1) The second of |
| In [34]: In [34]: In [31]: In []: In | Anticontrol of the state of the |
| In [34]: In [52]: In []: In [] | Source for anything of contract on the contract of the contrac |
| In [34]: In [34]: In [34]: In []: In | Freedomy to August and Production (1990) and |
| In [34]: In [52]: In []: In [] | ** THE CONTROL OF THE |
| In [34]: In [52]: In []: In [] | |
| In [34]: In [52]: In []: In [] | |
| In [34]: In [52]: In []: In [] | |
| In [34]: In [52]: In []: In [] | Section 1 and 1 an |
| IN [34]: IN [52]: IN []: IN [] | |
| In [34]: In [34]: In [31]: In []: In | |
| IN [34]: IN [52]: IN []: IN [] | |
| IN [34]: IN [52]: IN []: IN [] | |
| IN [34]: IN [52]: IN []: IN [] | |
| IN [34]: IN [52]: IN []: IN [] | |
| IN [34]: IN [52]: IN []: IN [] | |
| IN [34]: IN [52]: IN []: IN [] | |