Random Forest Regression

October 15, 2024

1 Random Forest Regression

[1]:
```
# Importing the libraries
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import os
```

[2]:
```
# Importing the dataset
os.chdir("C:\\Users\ddaya\OneDrive\Documents\Python_programming")
dataset = pd.read_csv('Position_Salaries.csv')
X = dataset.iloc[:, 1:-1].values
y = dataset.iloc[:, -1].values
```

[3]:
```
# Training the Random Forest Regression model on the whole dataset
from sklearn.ensemble import RandomForestRegressor
regressor = RandomForestRegressor(n_estimators = 10, random_state = 0)
regressor.fit(X, y)
```

[3]:
```
RandomForestRegressor(n_estimators=10, random_state=0)
```

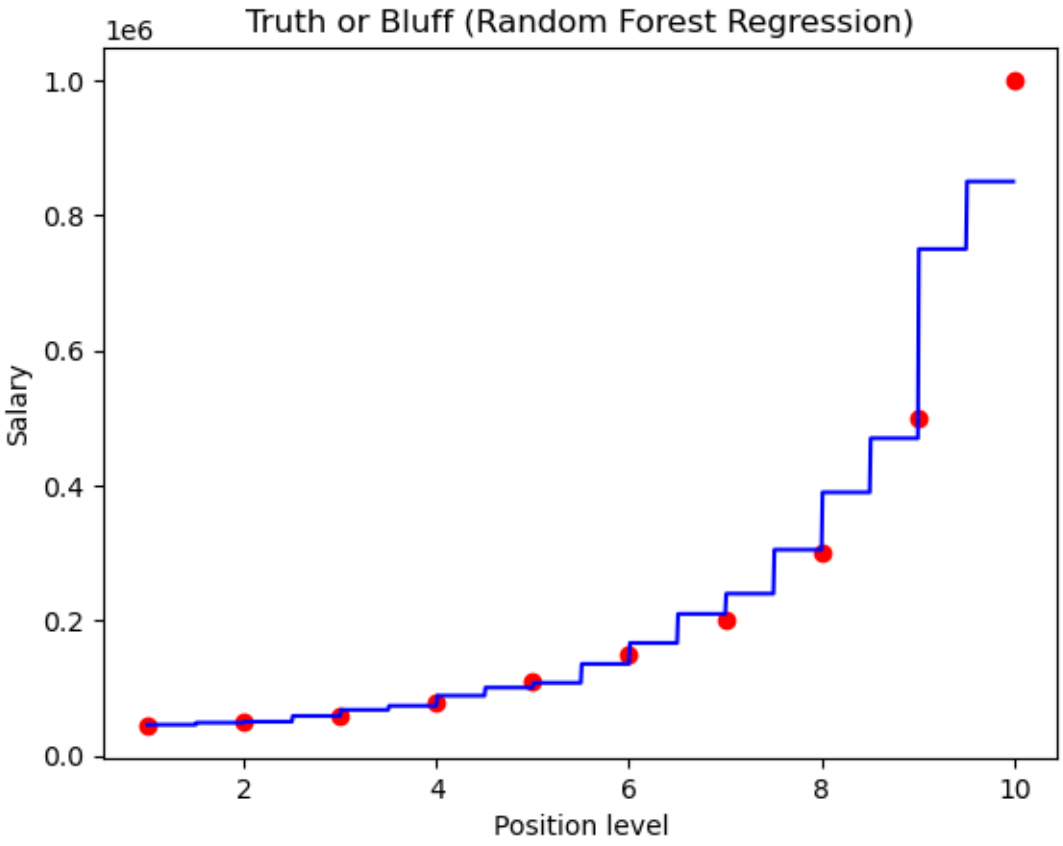
[4]:
```
# Predicting a new result
regressor.predict([[6.5]])
```

[4]:
```
array([167000.])
```

[5]:
```
# Visualising the Random Forest Regression results (higher resolution)
X_grid = np.arange(min(X), max(X), 0.01)
X_grid = X_grid.reshape((len(X_grid), 1))
plt.scatter(X, y, color = 'red')
plt.plot(X_grid, regressor.predict(X_grid), color = 'blue')
plt.title('Truth or Bluff (Random Forest Regression)')
plt.xlabel('Position level')
plt.ylabel('Salary')
plt.show()
```

```
C:\Users\ddaya\AppData\Local\Temp\ipykernel_18288\2213614472.py:2:
DeprecationWarning: Conversion of an array with ndim > 0 to a scalar is
```

```
deprecated, and will error in future. Ensure you extract a single element from
your array before performing this operation. (Deprecated NumPy 1.25.)
  X_grid = np.arange(min(X), max(X), 0.01)
```



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