Decision Tree Regression

October 15, 2024

1 Decision Tree Regression

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

```
[4]:  # 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
```

```
[5]:  # Training the Decision Tree Regression model on the whole dataset
      from sklearn.tree import DecisionTreeRegressor
      regressor = DecisionTreeRegressor(random_state = 0)
      regressor.fit(X, y)
```

```
[5]:  DecisionTreeRegressor(random_state=0)
```

```
[6]:  # Predicting a new result
      regressor.predict([[6.5]])
```
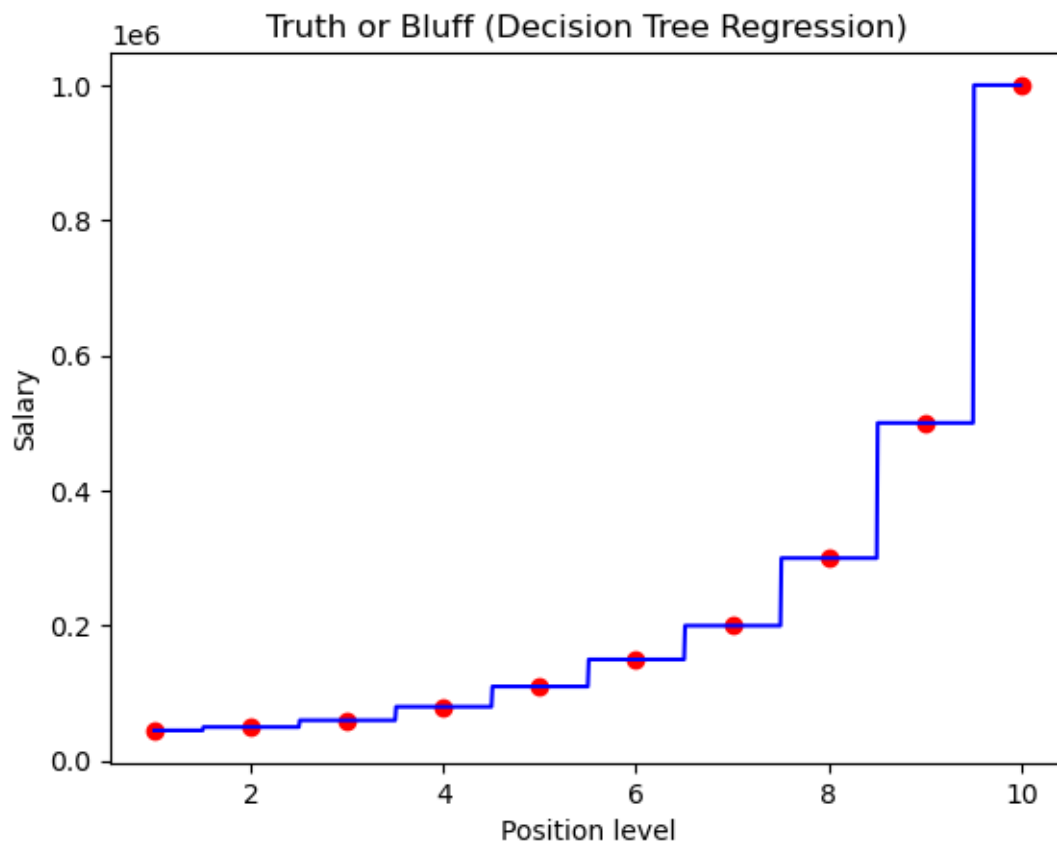
```
[6]:  array([150000.])
```

```
[7]:  # Visualising the Decision Tree 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 (Decision Tree Regression)')
      plt.xlabel('Position level')
      plt.ylabel('Salary')
      plt.show()
```

```
C:\Users\ddaya\AppData\Local\Temp\ipykernel_11584\4024256648.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)
```


Truth or Bluff (Decision Tree Regression)

[ ]: