

```
In [1]: import pandas as pd
from pandasai import SmartDataframe
from pandasai.llm import OpenAI
```

```
In [2]: import numpy as np
import matplotlib.pyplot as plt
from sklearn.tree import DecisionTreeRegressor, export_text
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_squared_error
```

```
In [3]: from sklearn.metrics import r2_score
from sklearn.model_selection import GridSearchCV
```

```
In [4]: house_price = pd.read_csv('Real_estate _1.csv')
house_price.head()
```

```
Out[4]:
```

	No	X1 transaction date	X2 house age	X3 distance to the nearest MRT station	X4 number of convenience stores	X5 latitude	X6 longitude	Y house price of unit area
0	1	2012.917	32.0	84.87882	10	24.98298	121.54024	37.9
1	2	2012.917	19.5	306.59470	9	24.98034	121.53951	42.2
2	3	2013.583	13.3	561.98450	5	24.98746	121.54391	47.3
3	4	2013.500	13.3	561.98450	5	24.98746	121.54391	54.8
4	5	2012.833	5.0	390.56840	5	24.97937	121.54245	43.1

```
In [8]: house_price.columns = house_price.columns.str.strip().str.lower().str.replace(" ",
```

```
In [9]: house_price.rename(columns={'no': 'transaction_id'}, inplace=True)
```

```
In [10]: def cap_outliers(series, upper_percentile=0.97):
upper_bound = series.quantile(upper_percentile)
return series.clip(upper=upper_bound)
```

```
In [11]: house_price['x3_distance_to_the_nearest_mrt_station'] = cap_outliers(house_price['x
print(f"{'x3_distance_to_the_nearest_mrt_station'}: capped at 97th percentile = {ho

x3_distance_to_the_nearest_mrt_station: capped at 97th percentile = 4435.03305000000
1
```

```
In [13]: outlier_values = [78.3, 117.5, 78.0]
house_price = house_price[~house_price['y_house_price_of_unit_area'].isin(outlier_v
```

```
In [14]: house_price = house_price.drop(columns=['transaction_id', 'x1_transaction_date'])
house_price.head()
```

Out[14]:

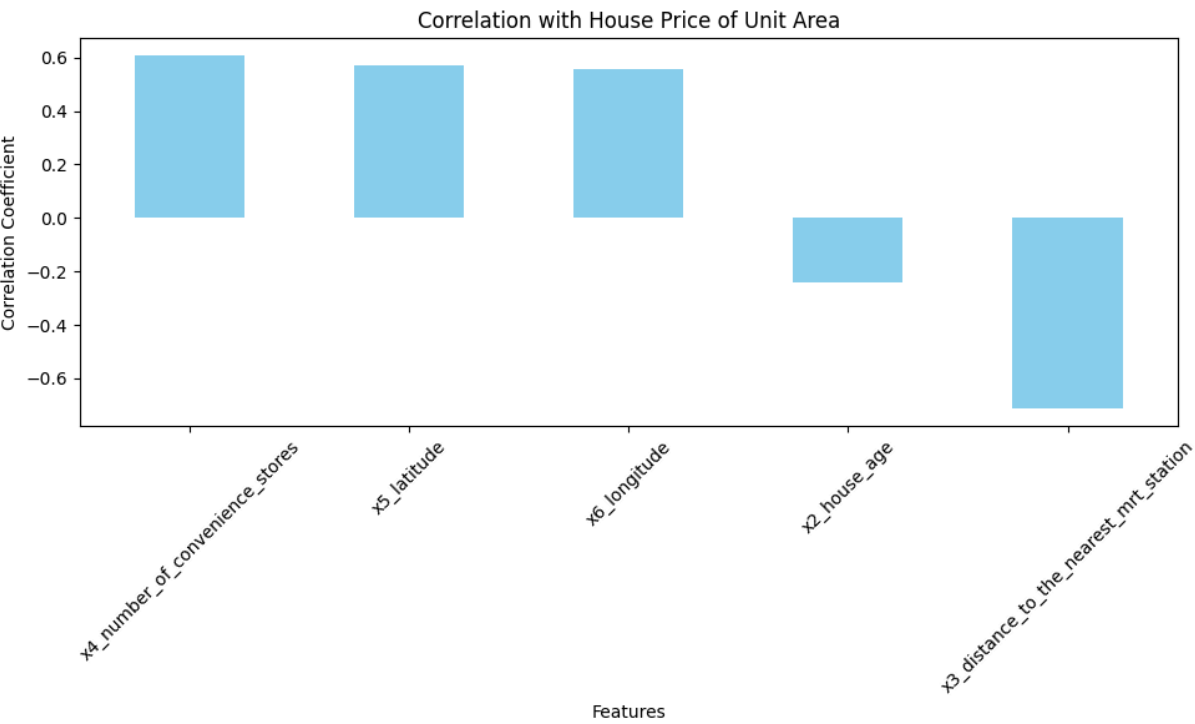
	x2_house_age	x3_distance_to_the_nearest_mrt_station	x4_number_of_convenience_stores
0	32.0	84.87882	10
1	19.5	306.59470	9
2	13.3	561.98450	5
3	13.3	561.98450	5
4	5.0	390.56840	5

```
In [16]: llm = OpenAI(api_token="sk-proj-KtQvt_jEawaTmmBFpqxRE5fXxd7dTJfPGgsmwGYJpNW19XAv3cH")
house_price = SmartDataframe(house_price, config={"llm": llm})
```

```
In [17]: house_price.chat('use wisestep to find the best predictors for y_house_price_of_unit_area')
```

Out[17]:

	y_house_price_of_unit_area
x4_number_of_convenience_stores	0.605853
x5_latitude	0.571849
x6_longitude	0.554585
x2_house_age	-0.242852
x3_distance_to_the_nearest_mrt_station	-0.711290



```
In [18]: house_price.chat('define x2_house_age, x3_distance_to_the_nearest_mrt_station, x4_n')
```

	x2_house_age	x3_distance_to_the_nearest_mrt_station	\
0	32.0	84.87882	
1	19.5	306.59470	
2	13.3	561.98450	
3	13.3	561.98450	
4	5.0	390.56840	
..	...	...	
409	13.7	4082.01500	
410	5.6	90.45606	
411	18.8	390.96960	
412	8.1	104.81010	
413	6.5	90.45606	

	x4_number_of_convenience_stores	x5_latitude	x6_longitude
0	10	24.98298	121.54024
1	9	24.98034	121.53951
2	5	24.98746	121.54391
3	5	24.98746	121.54391
4	5	24.97937	121.54245
..	...	...	...
409	0	24.94155	121.50381
410	9	24.97433	121.54310
411	7	24.97923	121.53986
412	5	24.96674	121.54067
413	9	24.97433	121.54310

[411 rows x 5 columns]

Out[18]:

	x2_house_age	x3_distance_to_the_nearest_mrt_station	x4_number_of_convenience_stores
0	32.0	84.87882	10
1	19.5	306.59470	9
2	13.3	561.98450	5
3	13.3	561.98450	5
4	5.0	390.56840	5
...	...	...	...
409	13.7	4082.01500	0
410	5.6	90.45606	9
411	18.8	390.96960	7
412	8.1	104.81010	5
413	6.5	90.45606	9

411 rows x 5 columns

In [20]: `house_price.chat('define y_house_price_of_unit_area column as an outcome for the pr`

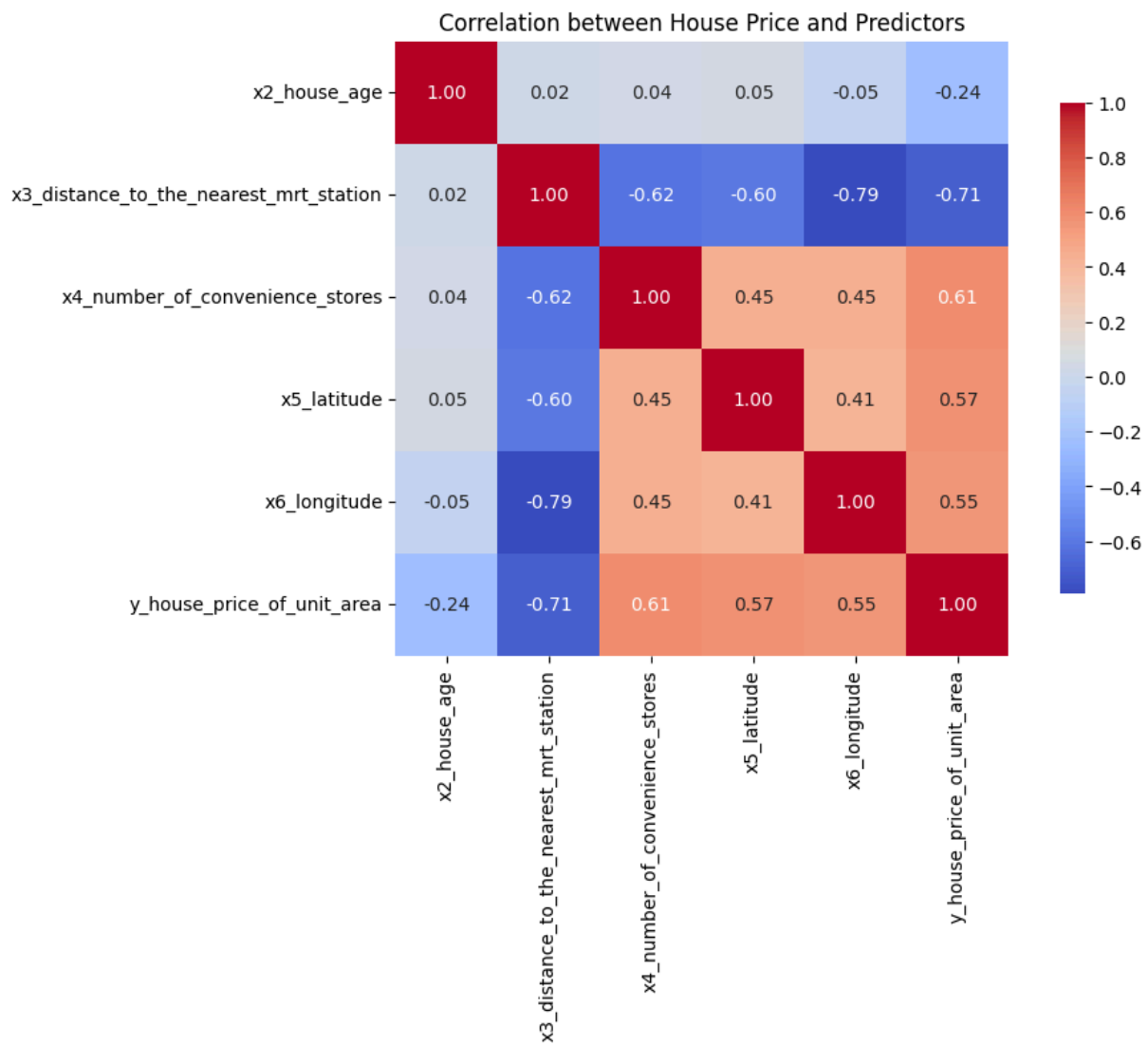
Out[20]:

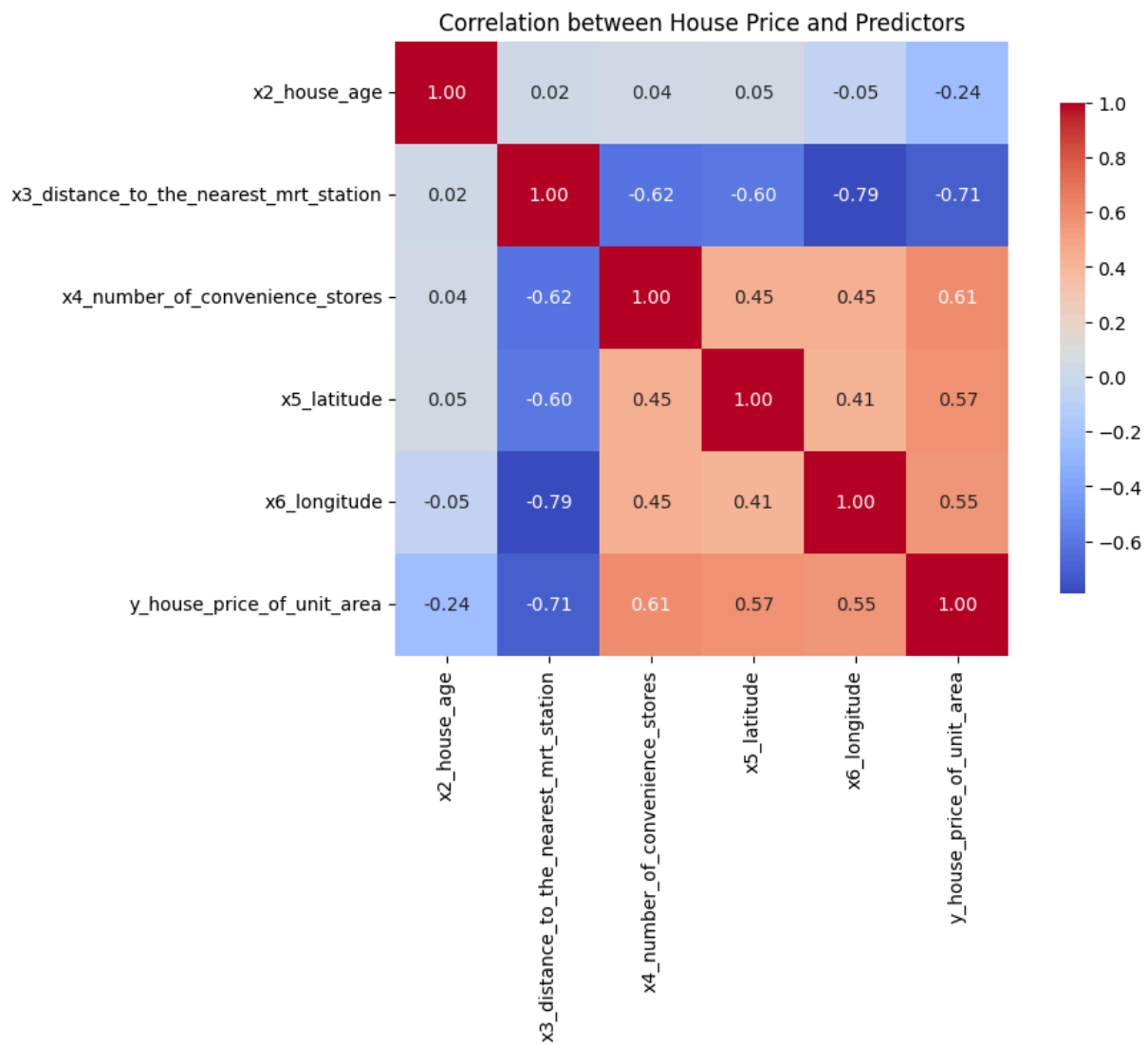
	x2_house_age	x3_distance_to_the_nearest_mrt_station	x4_number_of_convenience_stores
0	32.0	84.87882	10
1	19.5	306.59470	9
2	13.3	561.98450	5
3	13.3	561.98450	5
4	5.0	390.56840	5
...	...	...	...
409	13.7	4082.01500	0
410	5.6	90.45606	9
411	18.8	390.96960	7
412	8.1	104.81010	5
413	6.5	90.45606	9

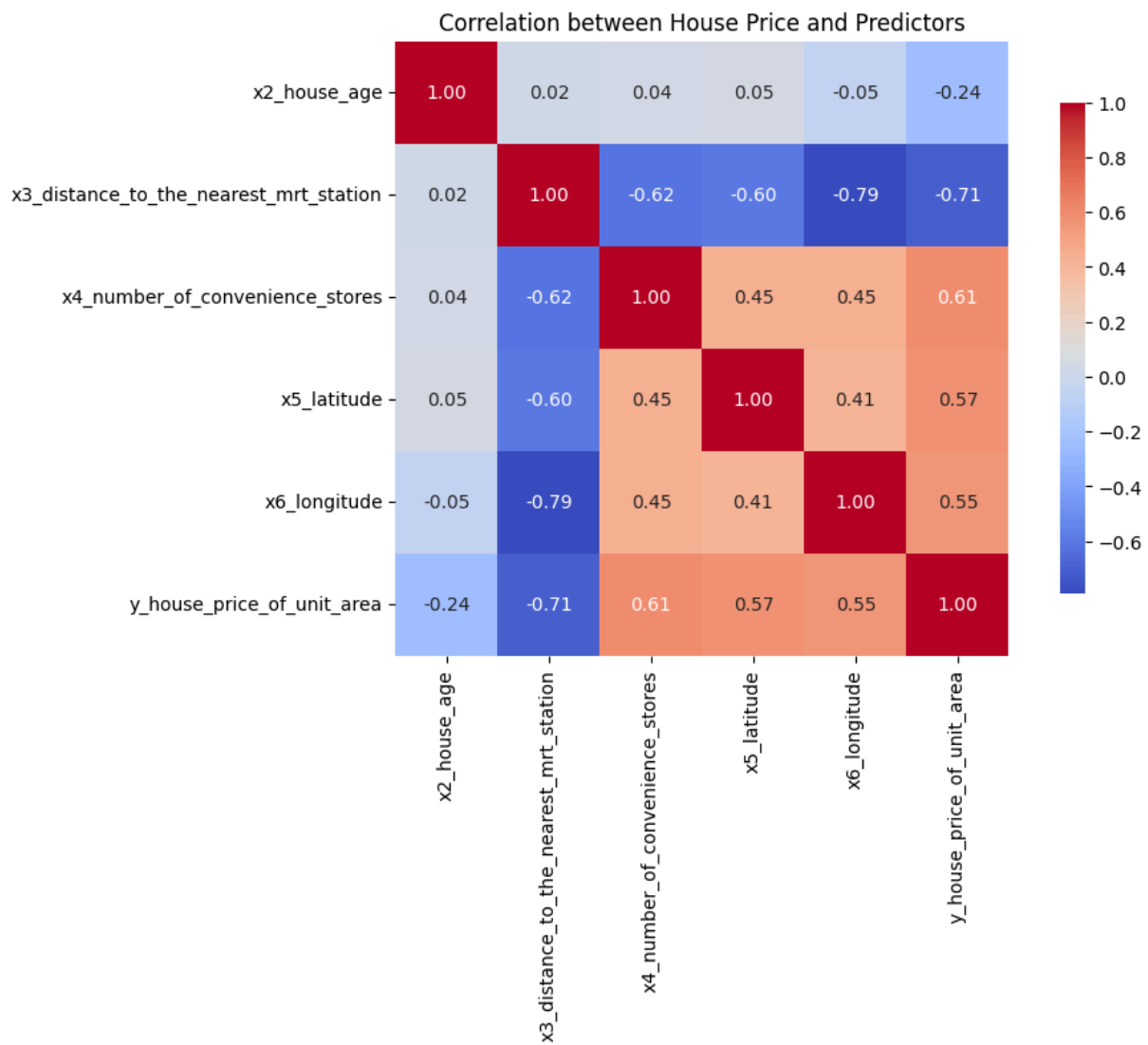
411 rows × 6 columns

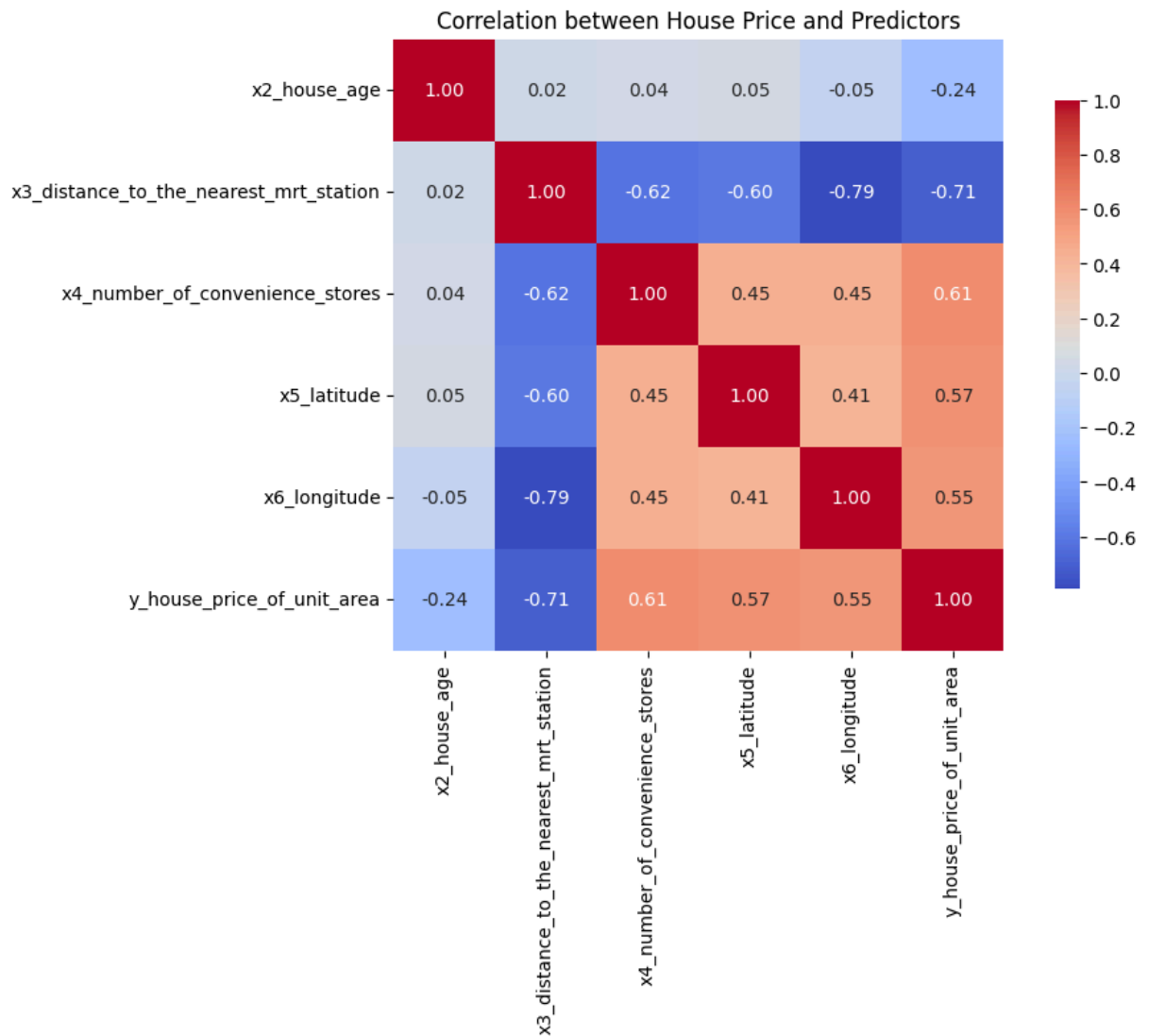
In [21]:

house\_price.chat('visualize correlation between outcome and best predictors')









```

Traceback (most recent call last):
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\generate_chat_pipeline.py", line 335, in run
    ).run(input)
    ^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 137, in run
    raise e
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 101, in run
    step_output = logic.execute(
    ^^^^^^^^^^^^^^^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 113, in execute
    raise e
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 97, in execute
    raise InvalidOutputValueMismatch(
pandasai.exceptions.InvalidOutputValueMismatch: Value type <class 'str'> must match
with type plot
  
```

Out[21]: "Unfortunately, I was not able to answer your question, because of the following e  
rror:\n\nValue type <class 'str'> must match with type plot\n"



# Splittig data

```
In [32]: house_price.chat('divide the original data frame house_price into two data frames w
```

Independent Variables (X):

	x2_house_age	x3_distance_to_the_nearest_mrt_station \		x4_number_of_convenience_stores	x5_latitude	x6_longitude
0	32.0	84.87882		10	24.98298	121.54024
1	19.5	306.59470		9	24.98034	121.53951
2	13.3	561.98450		5	24.98746	121.54391
3	13.3	561.98450		5	24.98746	121.54391
4	5.0	390.56840		5	24.97937	121.54245
..	...	...		...	...	...
409	13.7	4082.01500		0	24.94155	121.50381
410	5.6	90.45606		9	24.97433	121.54310
411	18.8	390.96960		7	24.97923	121.53986
412	8.1	104.81010		5	24.96674	121.54067
413	6.5	90.45606		9	24.97433	121.54310

[411 rows x 5 columns]

Dependent Variable (y):

0	37.9
1	42.2
2	47.3
3	54.8
4	43.1
..	...
409	15.4
410	50.0
411	40.6
412	52.5
413	63.9

Name: y\_house\_price\_of\_unit\_area, Length: 411, dtype: float64

Independent Variables (X):

	x2_house_age	x3_distance_to_the_nearest_mrt_station \
0	32.0	84.87882
1	19.5	306.59470
2	13.3	561.98450
3	13.3	561.98450
4	5.0	390.56840
..	...	...
409	13.7	4082.01500
410	5.6	90.45606
411	18.8	390.96960
412	8.1	104.81010
413	6.5	90.45606

	x4_number_of_convenience_stores	x5_latitude	x6_longitude
0	10	24.98298	121.54024
1	9	24.98034	121.53951
2	5	24.98746	121.54391
3	5	24.98746	121.54391
4	5	24.97937	121.54245
..	...	...	...
409	0	24.94155	121.50381
410	9	24.97433	121.54310
411	7	24.97923	121.53986
412	5	24.96674	121.54067
413	9	24.97433	121.54310

[411 rows x 5 columns]

Dependent Variable (y):

0	37.9
1	42.2
2	47.3
3	54.8
4	43.1
..	...
409	15.4
410	50.0
411	40.6
412	52.5
413	63.9

Name: y\_house\_price\_of\_unit\_area, Length: 411, dtype: float64

Independent Variables (X):

	x2_house_age	x3_distance_to_the_nearest_mrt_station \
0	32.0	84.87882
1	19.5	306.59470
2	13.3	561.98450
3	13.3	561.98450
4	5.0	390.56840
..	...	...
409	13.7	4082.01500
410	5.6	90.45606
411	18.8	390.96960
412	8.1	104.81010
413	6.5	90.45606

	x4_number_of_convenience_stores	x5_latitude	x6_longitude
0	10	24.98298	121.54024
1	9	24.98034	121.53951
2	5	24.98746	121.54391
3	5	24.98746	121.54391
4	5	24.97937	121.54245
..	...	...	...
409	0	24.94155	121.50381
410	9	24.97433	121.54310
411	7	24.97923	121.53986
412	5	24.96674	121.54067
413	9	24.97433	121.54310

[411 rows x 5 columns]

Dependent Variable (y):

```
0      37.9
1      42.2
2      47.3
3      54.8
4      43.1
...
409    15.4
410    50.0
411    40.6
412    52.5
413    63.9
```

Name: y\_house\_price\_of\_unit\_area, Length: 411, dtype: float64

Traceback (most recent call last):

```
File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\generate_chat_pipeline.py", line 335, in run
    ).run(input)
```

^^^^^^^^^^

```
File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 137, in run
    raise e
```

```
File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 101, in run
    step_output = logic.execute(
    ^^^^^^^^^^^^^^^^^
```

```
File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 113, in execute
    raise e
```

```
File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 85, in execute
    result = self.execute_code(code_to_run, code_context)
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
```

```
File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 175, in execute_code
    raise NoResultFoundError("No result returned")
pandasai.exceptions.NoResultFoundError: No result returned
```

Out[32]: 'Unfortunately, I was not able to answer your question, because of the following error:\n\nNo result returned\n'

In [29]: `house_price.chat('split y_house_price_of_unit_area and best predictors into trainin`

```
Training data shape: (246, 6)
Validation data shape: (165, 6)
Training data shape: (246, 6)
Validation data shape: (165, 6)
```

```

Traceback (most recent call last):
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\generate_chat_pipeline.py", line 335, in run
    ).run(input)
    ^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 137, in run
    raise e
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 101, in run
    step_output = logic.execute(
    ^^^^^^^^^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 113, in execute
    raise e
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 85, in execute
    result = self.execute_code(code_to_run, code_context)
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 175, in execute_code
    raise NoResultFoundError("No result returned")
pandasai.exceptions.NoResultFoundError: No result returned

```

Out[29]: 'Unfortunately, I was not able to answer your question, because of the following e  
rror:\n\nNo result returned\n'

## Best Hyperparameters

In [ ]: *# We will use Hyperparameters parameters that can be fine-tuned to improve the accu*

In [30]: *# Checking for Best Hyperparameters*  
house\_price.chat('look at the best hyperparameter combination of max\_depth, min\_sam

C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\model\_selection\\_validation.py:528: FitFailedWarning:  
720 fits failed out of a total of 2160.  
The score on these train-test partitions for these parameters will be set to nan.  
If these failures are not expected, you can try to debug them by setting error\_score='raise'.

Below are more details about the failures:

-----  
720 fits failed with the following error:

Traceback (most recent call last):

File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\model\_selection\\_validation.py", line 866, in \_fit\_and\_score  
estimator.fit(X\_train, y\_train, \*\*fit\_params)

File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\base.py", line 1382, in wrapper  
estimator.\_validate\_params()

File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\base.py", line 436, in \_validate\_params  
validate\_parameter\_constraints(

File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\utils\\_param\_validation.py", line 98, in validate\_parameter\_constraints  
raise InvalidParameterError(  
sklearn.utils.\_param\_validation.InvalidParameterError: The 'max\_features' parameter of RandomForestRegressor must be an int in the range [1, inf), a float in the range (0.0, 1.0], a str among {'sqrt', 'log2'} or None. Got 'auto' instead.

warnings.warn(some\_fits\_failed\_message, FitFailedWarning)

C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\model\_selection\\_search.py:1108: UserWarning: One or more of the test scores are non-finite: [

	nan	nan	nan	nan	nan	nan
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
0.83008139	0.82618807	0.82302974	0.81892816	0.8184234	0.81322589	
0.8066528	0.80591697	0.80617798	0.79823506	0.79290935	0.79920697	
0.79577817	0.78991245	0.79276693	0.79111162	0.79102203	0.78713341	
0.82150463	0.82481318	0.81463409	0.81237812	0.81396504	0.80897802	
0.80176877	0.80537533	0.8046106	0.82453139	0.82651971	0.8202324	
0.81947375	0.81601267	0.81334362	0.80820602	0.80471164	0.80455327	
0.82982119	0.82651411	0.8239287	0.82050459	0.82074811	0.81644803	
0.8035801	0.80421546	0.80388963	0.79710515	0.79730538	0.79830854	
0.79570255	0.79289969	0.79412681	0.79128027	0.78806808	0.78716633	
0.82201881	0.8248137	0.81818862	0.8167128	0.81774719	0.81073448	
0.80798828	0.80498673	0.80639542	0.82875709	0.82631475	0.82051849	
0.81582827	0.81708482	0.8119455	0.80609625	0.80286359	0.8042052	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
nan	nan	nan	nan	nan	nan	
0.82633769	0.82777903	0.8218108	0.81947208	0.81891324	0.81617359	
0.80675022	0.80869544	0.80356731	0.79573689	0.79935594	0.80137387	

```

0.79214023 0.79448161 0.79366645 0.7871792 0.79016348 0.78497814
0.82143914 0.8219534 0.82153031 0.81055681 0.81590478 0.81144615
0.80391774 0.80846275 0.80142565 0.82351078 0.82581967 0.82105303
0.81969248 0.81415624 0.81236743 0.80496293 0.80524377 0.80570014
0.82646231 0.8285453 0.81992706 0.81892201 0.81965132 0.81536428
0.80651154 0.8017928 0.8030058 0.80057649 0.80230443 0.8016478
0.79745392 0.79667195 0.79258557 0.78850377 0.78726229 0.79379069
0.82376414 0.82017963 0.81939714 0.81281844 0.81747576 0.81053313
0.80481227 0.80107984 0.80479062 0.82299226 0.82549796 0.82360246
0.81996241 0.81431264 0.81101939 0.80759652 0.80961219 0.80064549
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
0.83058054 0.82605932 0.81951695 0.81878006 0.81839811 0.81238774
0.80556028 0.80590953 0.80340711 0.79596973 0.80089614 0.79792412
0.78989939 0.79564613 0.7939421 0.78833417 0.79062119 0.79321095
0.82075308 0.82190132 0.82043086 0.81558915 0.8119523 0.81262339
0.80393138 0.8065429 0.8038433 0.82879852 0.82465638 0.82411909
0.81914943 0.81726023 0.81126224 0.80507838 0.80333522 0.80019723
0.82664167 0.82465983 0.8240187 0.82208521 0.8239796 0.80889864
0.79925811 0.80660806 0.80258977 0.80278912 0.80511943 0.79889164
0.79428141 0.7915417 0.79355413 0.7859805 0.79131408 0.78552655
0.82479356 0.82500239 0.82001576 0.81217775 0.81775976 0.81452941
0.80701288 0.80152315 0.80225209 0.82560588 0.82482494 0.8198719
0.82248329 0.81859698 0.81319551 0.8047644 0.80525052 0.80281958
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
nan nan nan nan nan nan
0.82939413 0.82622125 0.82436517 0.8235258 0.81710395 0.81272576
0.80294061 0.80284522 0.80156009 0.80009413 0.8004597 0.80381489
0.79420082 0.79549828 0.79677372 0.78574933 0.78897111 0.79472319
0.82239243 0.81607222 0.82234748 0.8134314 0.81355304 0.81446441
0.8002111 0.80706849 0.80299534 0.82316766 0.82443279 0.82227113
0.82074294 0.82015714 0.81351266 0.80510856 0.80331144 0.8019615
0.83222408 0.82627213 0.81950084 0.81778363 0.82471391 0.81035461
0.80046761 0.80384716 0.80535885 0.79532565 0.7996502 0.80082225
0.79545341 0.79245568 0.79450247 0.7897818 0.79296477 0.78906178
0.82071833 0.82306083 0.82120571 0.81856395 0.8130703 0.80778973
0.80396573 0.80582828 0.80244896 0.8260285 0.82653997 0.82361196
0.81764595 0.81769215 0.81228967 0.80539801 0.80603591 0.79980132]
warnings.warn(

```

```

{'type': 'string', 'value': "The best hyperparameter combination is: {'max_depth': 3
0, 'max_features': 'log2', 'max_leaf_nodes': None, 'min_samples_leaf': 1, 'min_sampl
es_split': 2}."}

```

```

Out[30]: "The best hyperparameter combination is: {'max_depth': 30, 'max_features': 'log2',
'max_leaf_nodes': None, 'min_samples_leaf': 1, 'min_samples_split': 2}."

```

```

In [ ]: # max_depth: It denotes the tree's maximum depth. It supports any int value or "Non
# min_samples_split: It refers to the minimum number of samples needed to split an

```

```
# min_samples_leaf: It refers to the minimum no. of samples required at the leaf no  
# max_features: It indicates the number of features to be considered in order to fi
```

```
In [40]: house_price.chat('create an object of DecisionTreeRegressor with max_depth =30, min
```

```
Out[40]: 'DecisionTreeRegressor object created successfully.'
```

## Training accuracy

```
In [41]: house_price.chat('alculatte the training accuracy using the R2 score')
```

```
Out[41]: 0.9962342622663247
```

```
In [ ]: # training accuracy is very hight = 99,62%  
# Both spreads are almost completely overlapping one another, indicating that train
```

```
In [42]: house_price.chat('use a scatter plot to see the training accuracy')
```



Training Accuracy (R2 Score): 0.9962342622663247





```
In [45]: house_price.chat('calculate ME, MAE, MPE, MAPE for thaining dataset ')
```

```
{'type': 'dataframe', 'value':  
  Metric      Value  
0      ME  1.772035e-16  
1      MAE  4.714761e-01  
2      MPE -1.255088e-01  
3      MAPE  1.189132e+00}
```

```
Out[45]:
```

	Metric	Value
--	--------	-------

0	ME	1.772035e-16
---	----	--------------

1	MAE	4.714761e-01
---	-----	--------------

2	MPE	-1.255088e-01
---	-----	---------------

3	MAPE	1.189132e+00
---	------	--------------

## Testing accuracy

```
In [47]: house_price.chat('show the testing accuracy')
```

```
Out[47]: 'The testing accuracy (R2 score) is 0.6771, MAE: 5.6497, RMSE: 7.5989.'
```

```
In [ ]: # Testing accuracy is  
        # There is overfitting in the model. Our training accuracy is between 99-98% while
```

```
In [48]: house_price.chat('calculate ME, MPE, MAPE for testing dataset ')
```

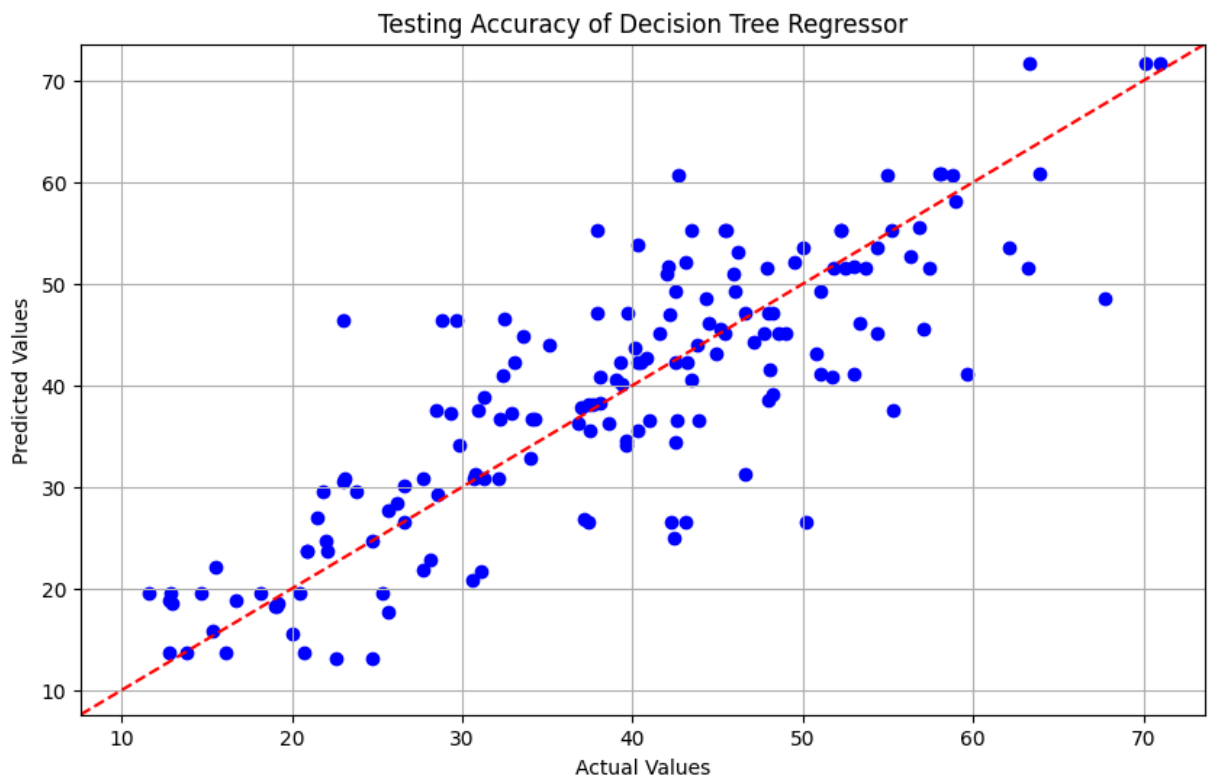
```
Out[48]:
```

	ME	MPE	MAPE
--	----	-----	------

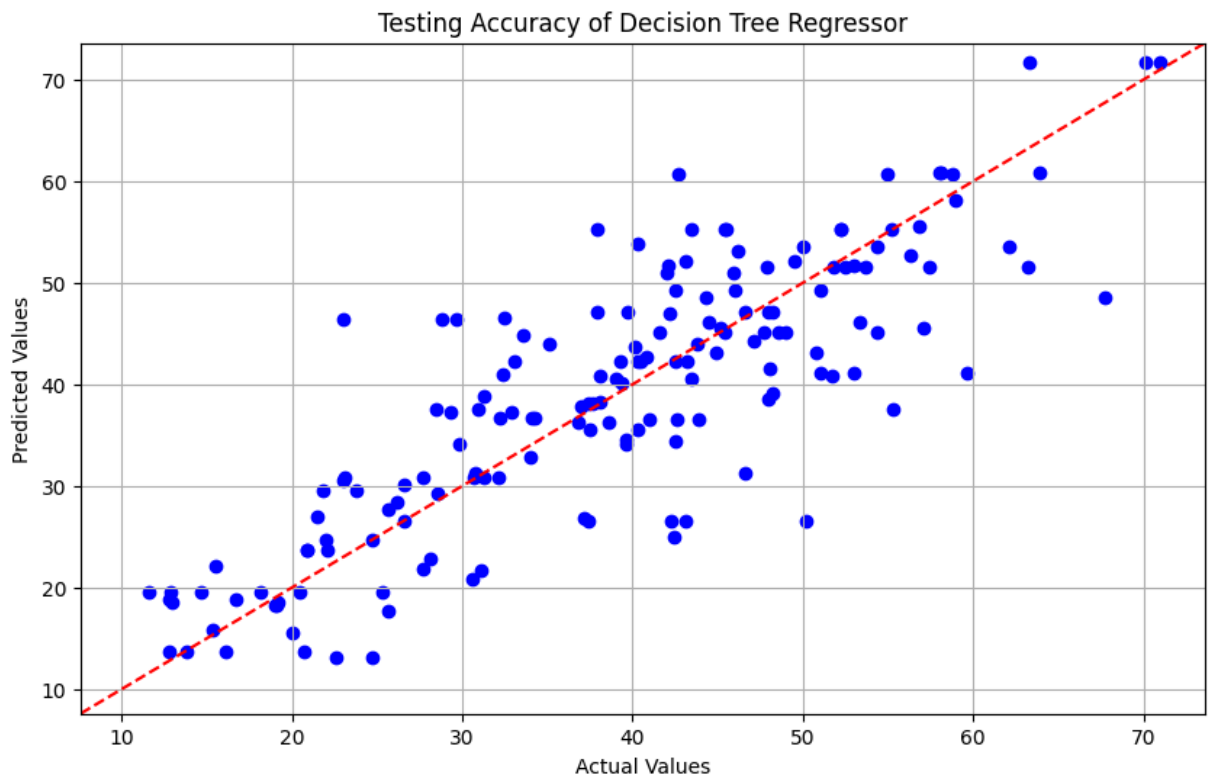
0	-3.759124	-10.0	10.0
---	-----------	-------	------

```
In [50]: house_price.chat('visualize the testing accuracy of decision tree regressor')
```

```
Testing R2 Score: 0.6771436184958102
```



Testing R2 Score: 0.6771436184958102

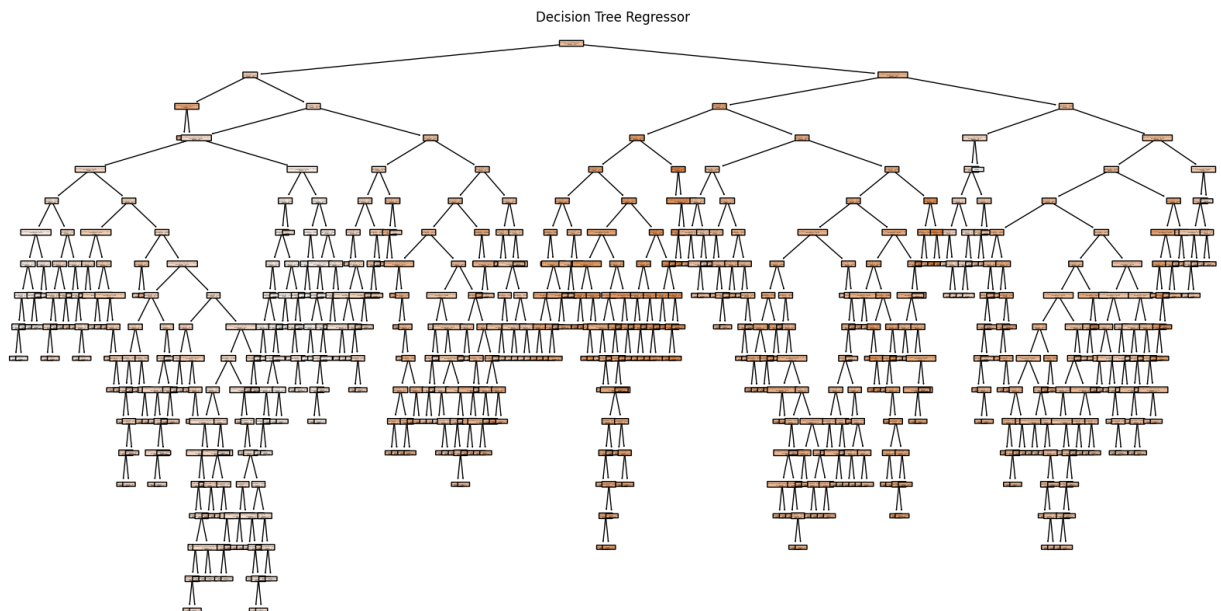
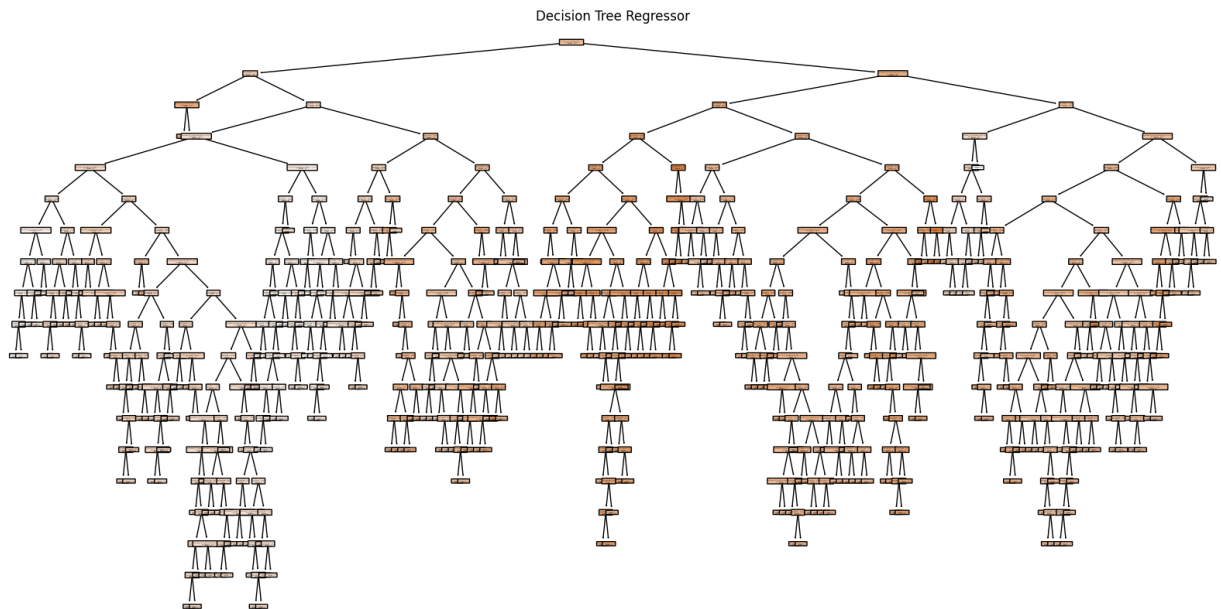


Testing R2 Score: 0.6771436184958102

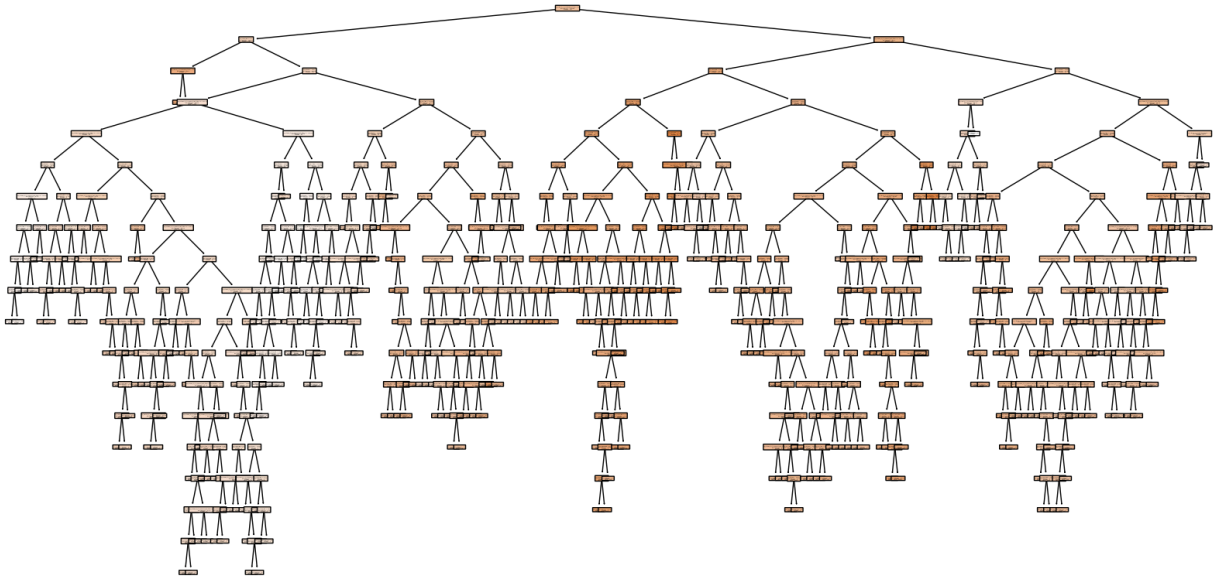


```
In [52]: # downloading Grahpviz package
from sklearn import tree
import graphviz
```

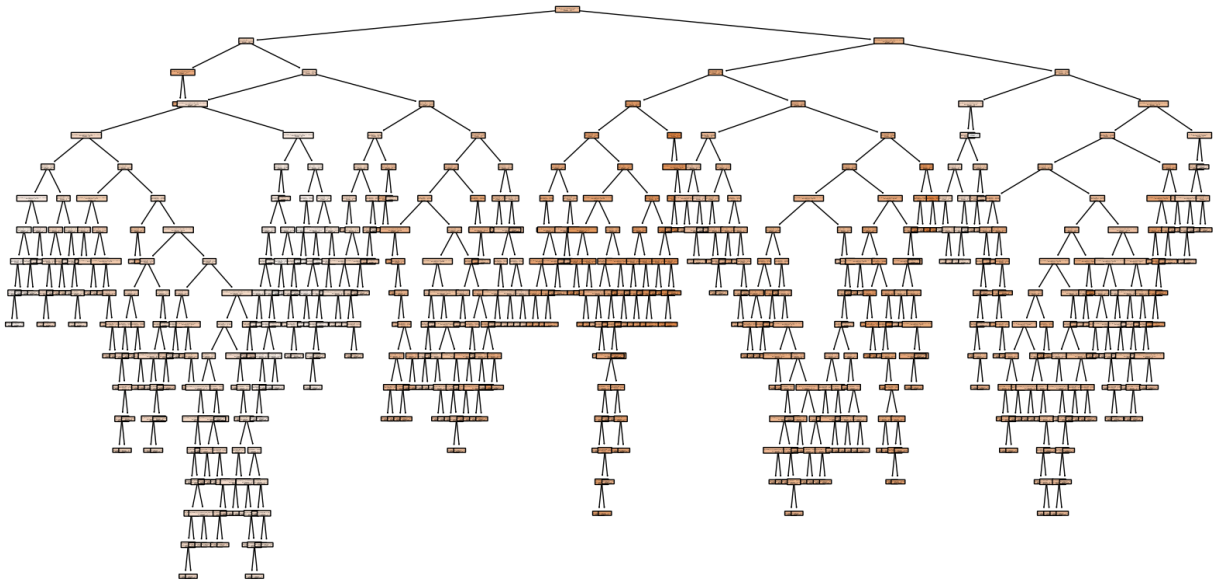
```
In [51]: house_price.chat('visualize the decision tree itself by using the tree module of sk
```



Decision Tree Regressor



Decision Tree Regressor



```

Traceback (most recent call last):
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\generate_chat_pipeline.py", line 335, in run
    ).run(input)
    ^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 137, in run
    raise e
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\pipeline.py", line 101, in run
    step_output = logic.execute(
    ^^^^^^^^^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 113, in execute
    raise e
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 85, in execute
    result = self.execute_code(code_to_run, code_context)
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
  File "C:\Users\ÖRNEK AİLESİ\AppData\Local\Programs\Python\Python312\Lib\site-packa
ges\pandasai\pipelines\chat\code_execution.py", line 175, in execute_code
    raise NoResultFoundError("No result returned")
pandasai.exceptions.NoResultFoundError: No result returned

```

Out[51]: 'Unfortunately, I was not able to answer your question, because of the following e  
rror:\n\nNo result returned\n'

In [ ]: