

BrainStation

APARTMENT BUILDING EVALUATION



INDEX

ABOUT PROJECT

RentSafeTO

ANALYTICAL DATA

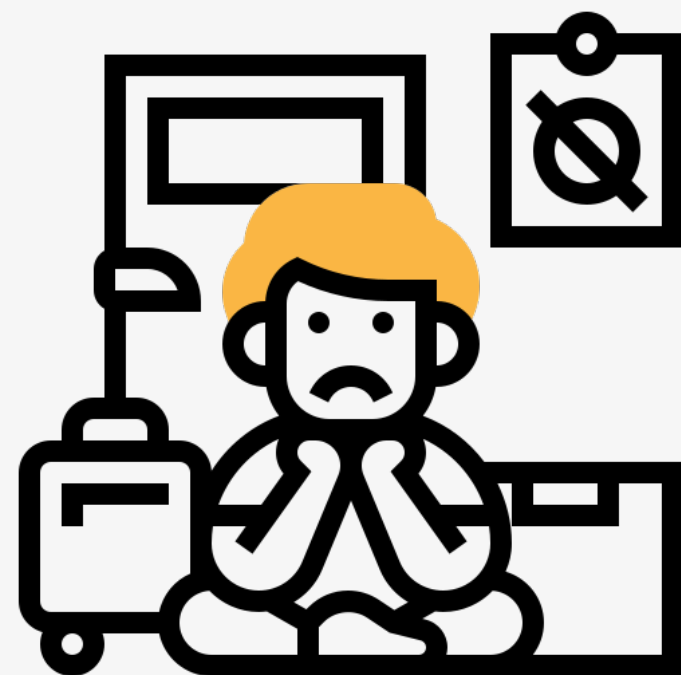
MODELS

CONCLUSIONS

PROJECT IDEA

THE PROBLEM AREA

01



TENANT

02



OWNER

About RentSafeTO The City of Toronto works to ensure that tenants live in safe, well-maintained buildings through the RentSafeTO : Apartment Building Standards Program.

ANALYTICAL DATA

DATA FRAME

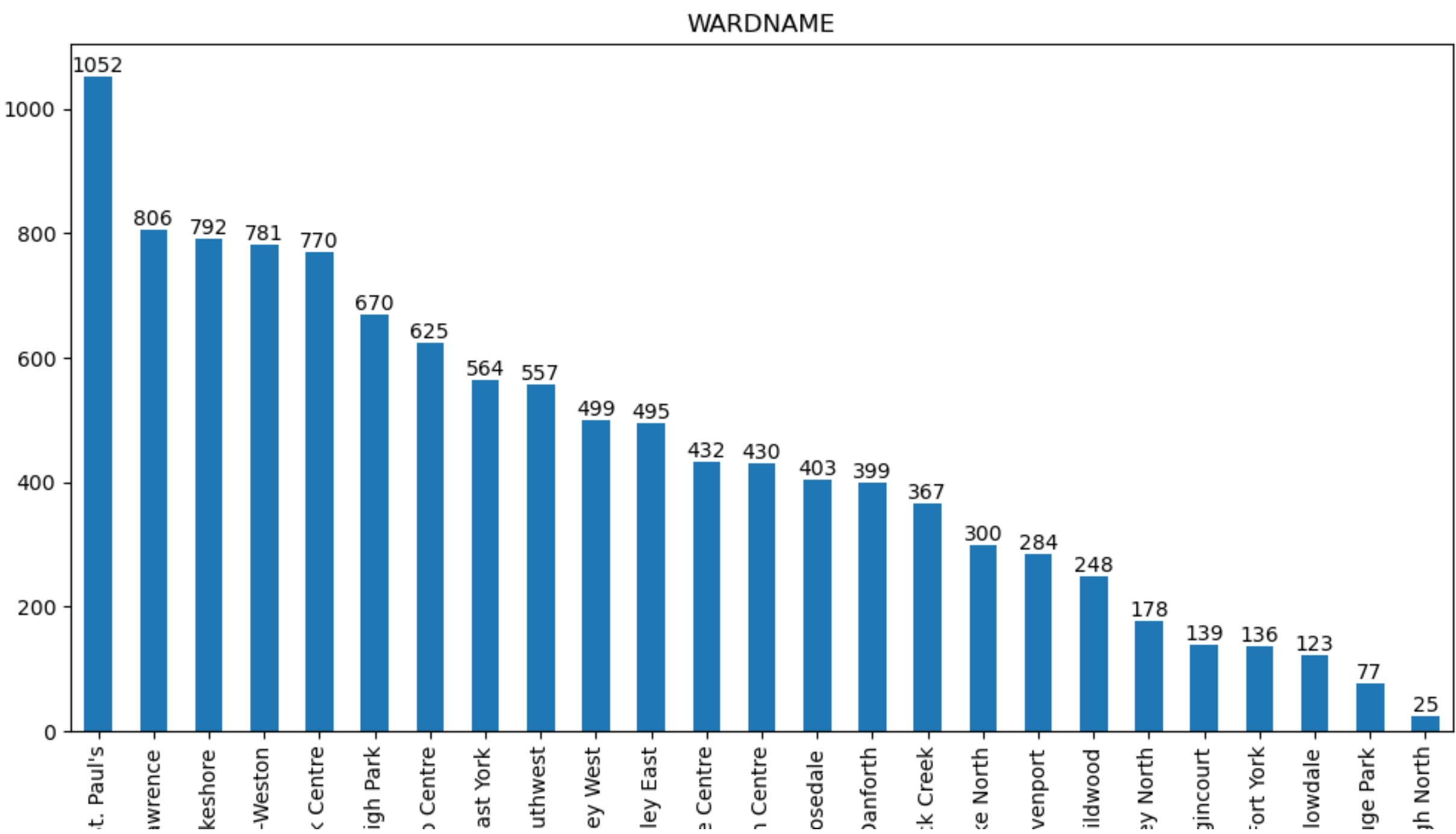
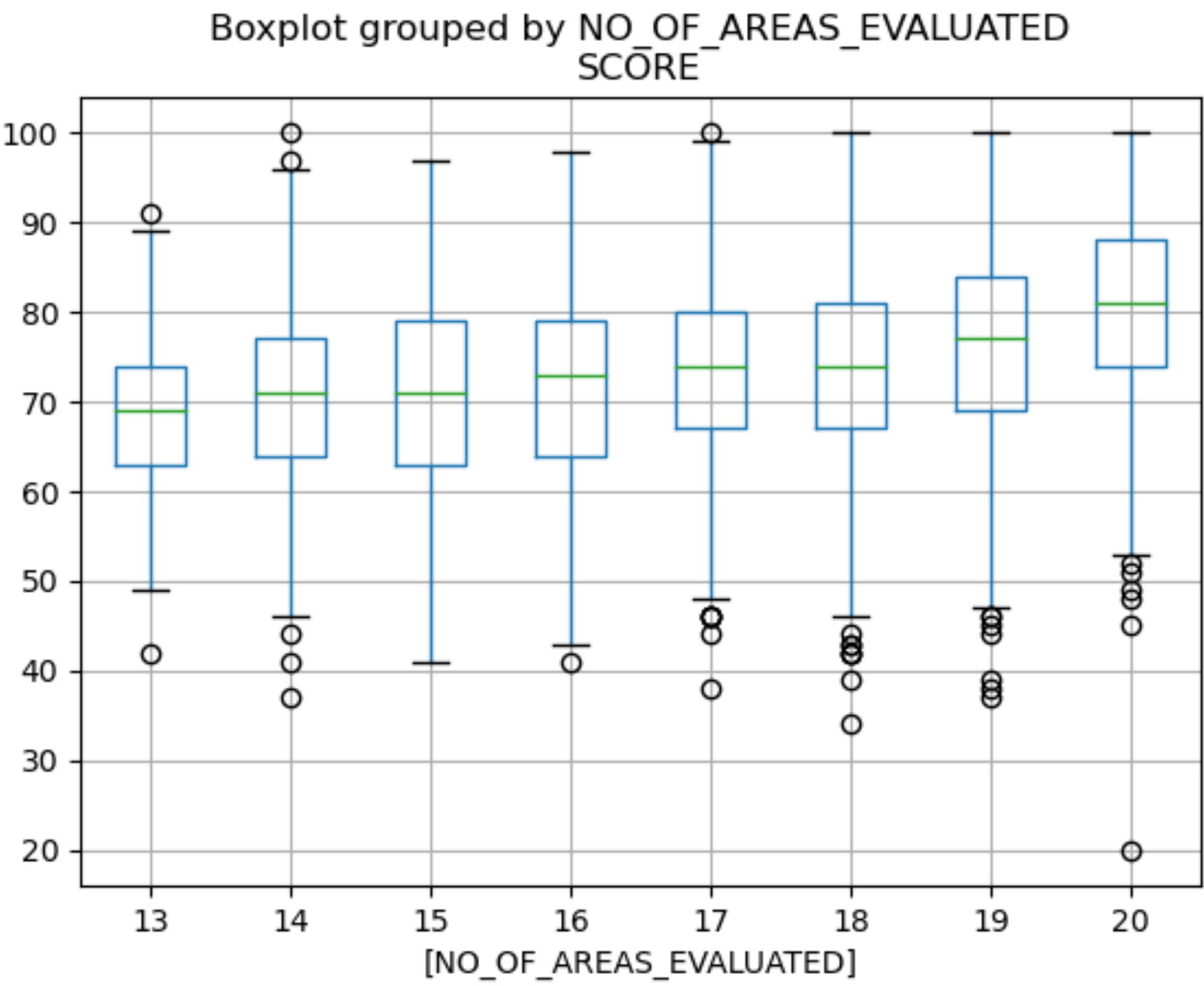
<https://open.toronto.ca/dataset/apartment-building-evaluation/>



Rows : 11760
Columns : 40
Updata : daily

_id	LAUNDRY_ROOMS
RSN	INTERNAL_GUARDS_HANDRAILS
YEAR_REGISTERED	GARBAGE_CHUTE_ROOMS
YEAR_EVALUATED	GARBAGE_BIN_STORAGE_AREA
YEAR_BUILT	ELEVATORS
PROPERTY_TYPE	STORAGE_AREAS_LOCKERS
WARD	INTERIOR_WALL_CEILING_FLOOR
WARDNAME	INTERIOR_LIGHTING_LEVELS
SITE_ADDRESS	GRAFFITI
CONFIRMED_STOREYS	EXTERIOR_CLADDING
CONFIRMED_UNITS	EXTERIOR_GROUNDS
EVALUATION_COMPLETED_ON	EXTERIOR_WALKWAYS
SCORE	BALCONY_GUARDS
RESULTS_OF_SCORE	WATER_PEN_EXT_BLDG_ELEMENTS
NO_OF_AREAS_EVALUATED	PARKING_AREA
ENTRANCE_LOBBY	OTHER_FACILITIES
ENTRANCE_DOORS_WINDOWS	GRID
SECURITY	LATITUDE
STAIRWELLS	LONGITUDE
	X
	Y

ANALYTICAL DATA



ANALYTICAL DATA

Linear Regression Models

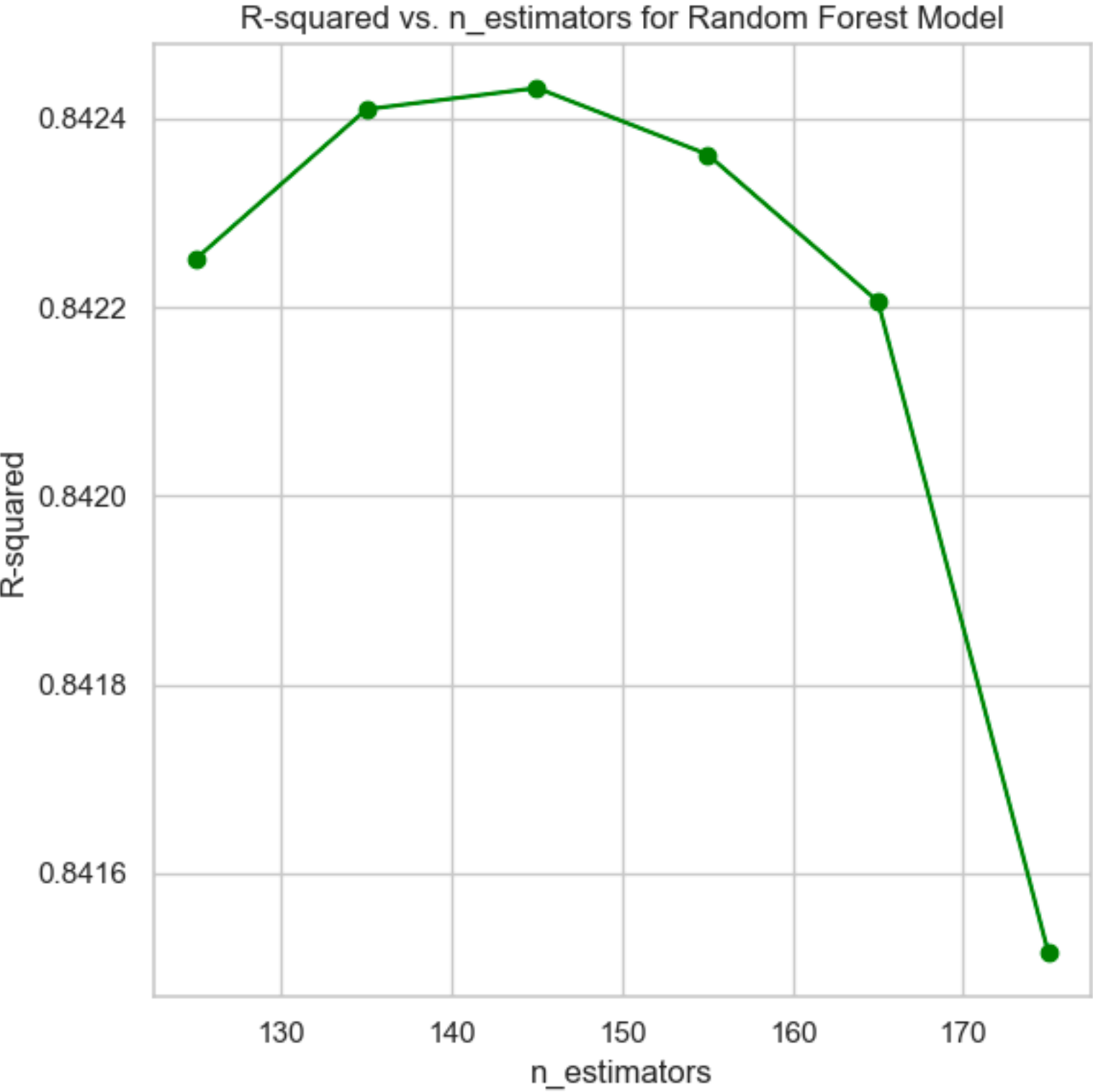
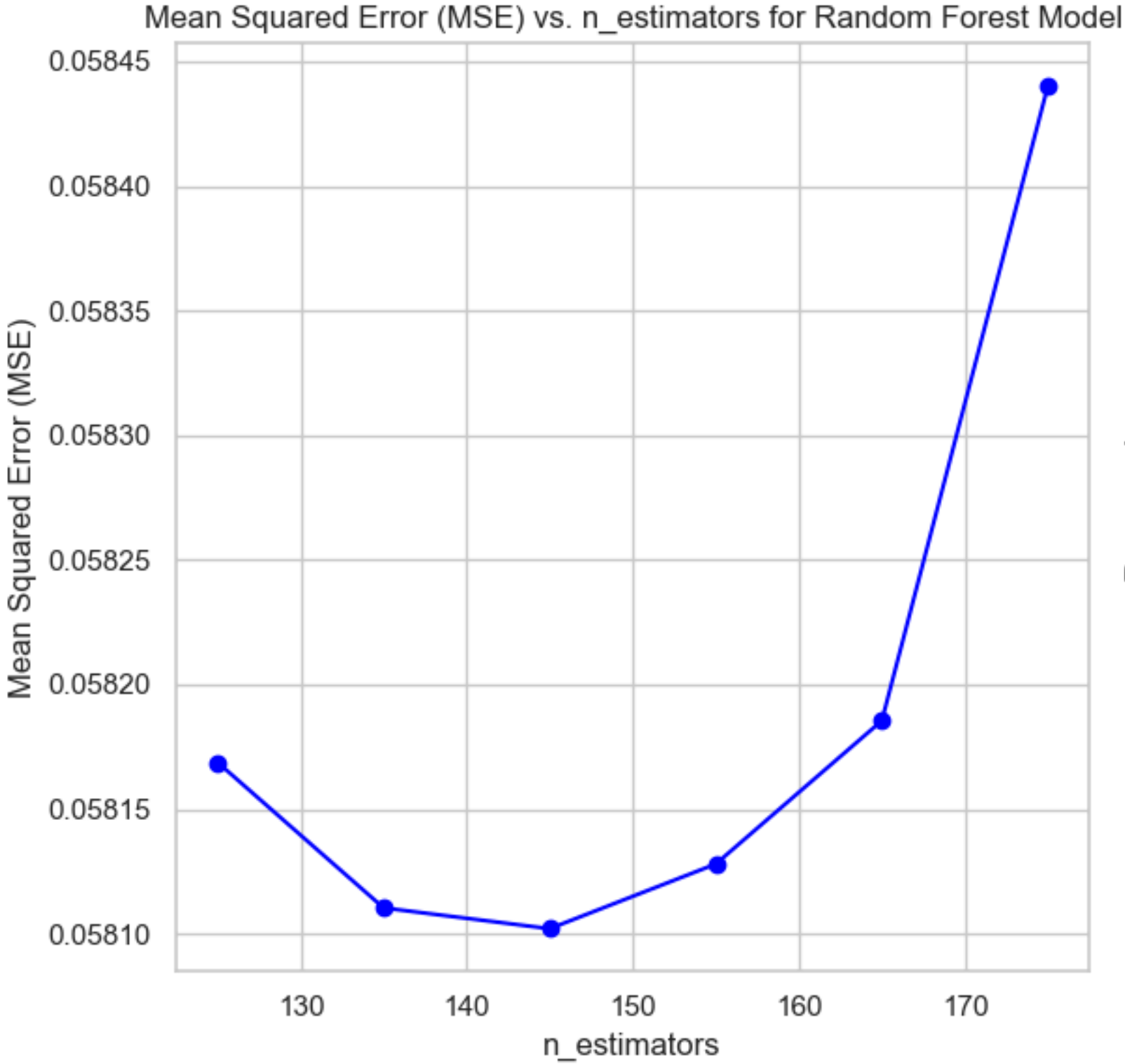
OLS Regression Results

Dep. Variable:	SCORE	R-squared:	0.989
Model:	OLS	Adj. R-squared:	0.989
Method:	Least Squares	F-statistic:	5.457e+04
Date:	Thu, 17 Aug 2023	Prob (F-statistic):	0.00
Time:	22:02:53	Log-Likelihood:	-16588.
No. Observations:	11152	AIC:	3.322e+04
Df Residuals:	11132	BIC:	3.336e+04
Df Model:	19		
Covariance Type:	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
const	-4.4001	1.236	-3.560	0.000	-6.823	-1.977
YEAR_BUILT	0.0027	0.001	4.177	0.000	0.001	0.004
CONFIRMED_STOREYS	0.0100	0.002	4.691	0.000	0.006	0.014
NO_OF_AREAS_EVALUATED	-0.1235	0.009	-14.311	0.000	-0.140	-0.107
ENTRANCE_LOBBY	1.4657	0.020	72.435	0.000	1.426	1.505
ENTRANCE_DOORS_WINDOWS	1.2556	0.019	67.198	0.000	1.219	1.292
SECURITY	1.2847	0.015	85.402	0.000	1.255	1.314
STAIRWELLS	1.3694	0.019	73.241	0.000	1.333	1.406
LAUNDRY_ROOMS	1.3344	0.017	76.349	0.000	1.300	1.369
INTERNAL_GUARDS_HANDRAILS	1.3060	0.015	86.960	0.000	1.277	1.335
GARBAGE_BIN_STORAGE_AREA	1.3557	0.016	83.119	0.000	1.324	1.388
INTERIOR_WALL_CEILING_FLOOR	1.3236	0.019	71.359	0.000	1.287	1.360
INTERIOR_LIGHTING_LEVELS	1.3153	0.016	84.117	0.000	1.285	1.346
GRAFFITI	1.1984	0.015	80.981	0.000	1.169	1.227
EXTERIOR_CLADDING	1.2486	0.020	63.166	0.000	1.210	1.287
EXTERIOR_GROUNDS	1.3542	0.019	70.511	0.000	1.317	1.392
EXTERIOR_WALKWAYS	1.2177	0.019	65.312	0.000	1.181	1.254
BALCONY_GUARDS	0.9273	0.017	54.640	0.000	0.894	0.961
WATER_PEN_EXT_BLDG_ELEMENTS	1.2169	0.018	66.432	0.000	1.181	1.253
PARKING_AREA	1.0909	0.016	66.971	0.000	1.059	1.123
Omnibus:	254.512	Durbin-Watson:	1.863			
Prob(Omnibus):	0.000	Jarque-Bera (JB):	582.448			
Skew:	-0.030	Prob(JB):	3.34e-127			
Kurtosis:	4.118	Cond. No.	2.39e+05			

ANALYTICAL DATA

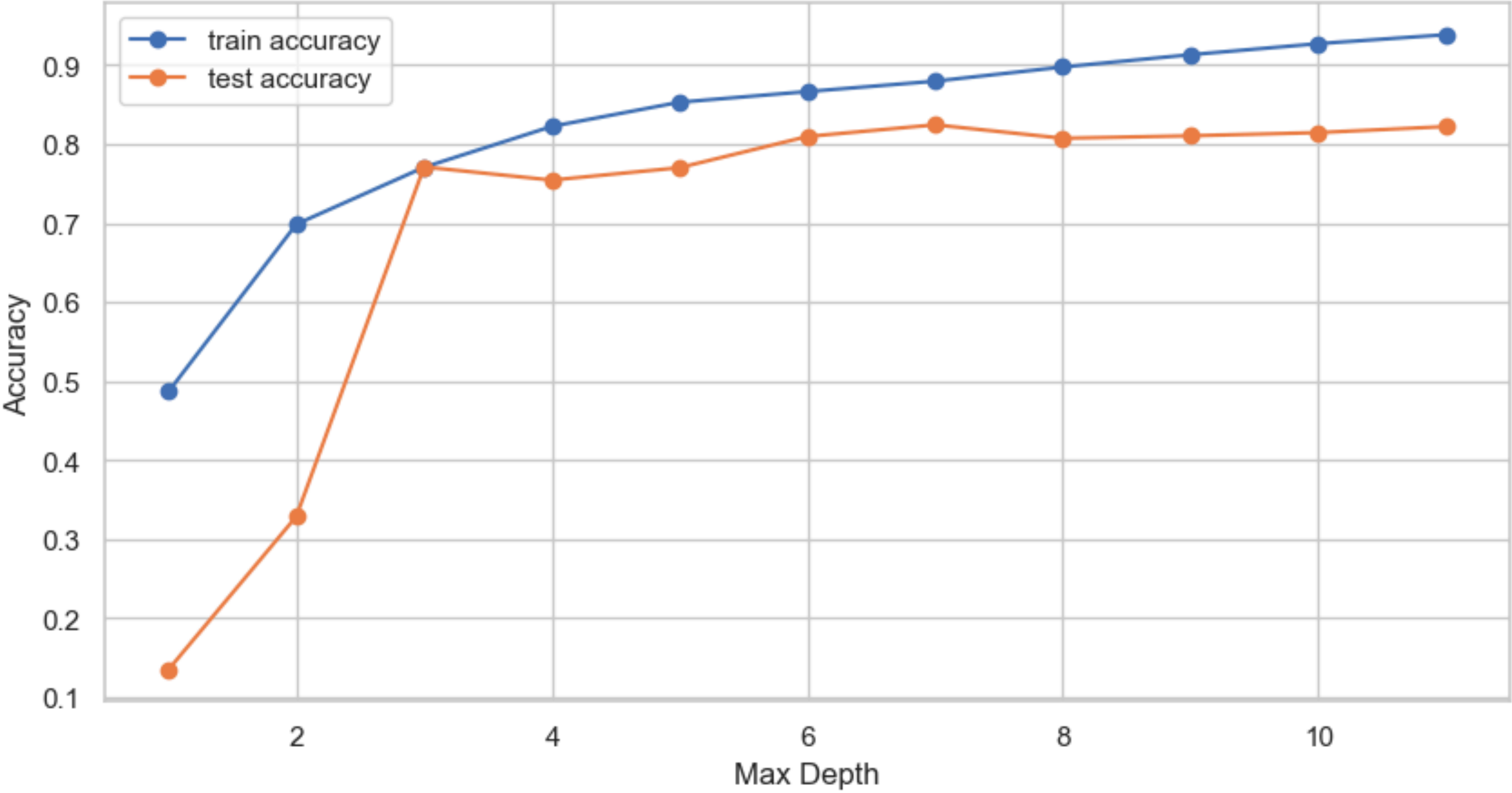
RandomForest



Mean Squared Error: 0.058102011916189085
Mean Absolute Error: 0.2410435892451593
R square: 0.842432314318886

ANALYTICAL DATA

Decision Tree



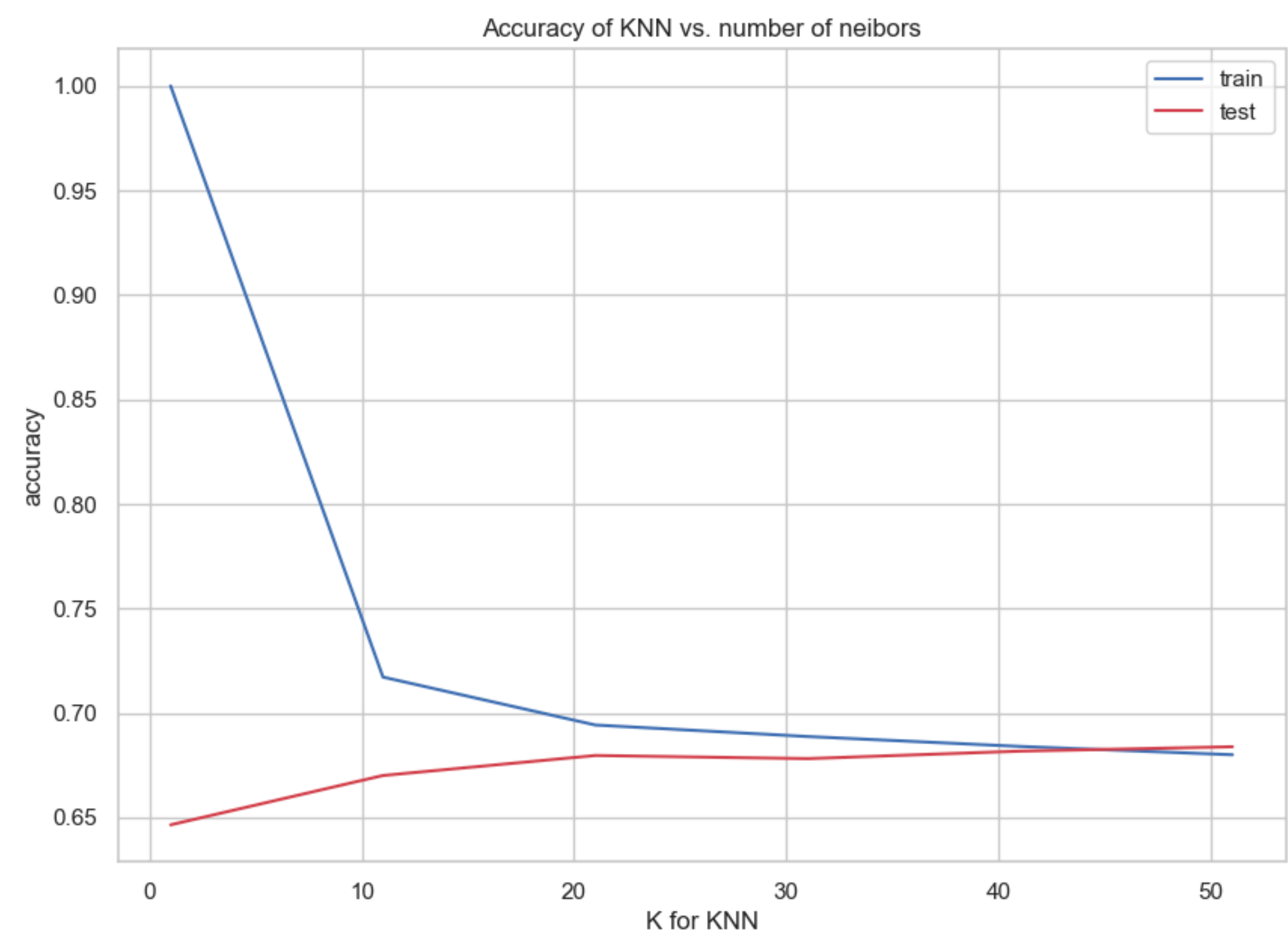
Accuracy: 0.8256387270282385

Report:

	precision	recall	f1-score	support
0	0.92	0.71	0.80	17
1	0.84	0.82	0.83	489
2	0.91	0.81	0.86	1435
3	0.57	0.91	0.70	290
accuracy			0.83	2231
macro avg	0.81	0.81	0.80	2231
weighted avg	0.85	0.83	0.83	2231

ANALYTICAL DATA

K-Nearest Neighbor



Train set accuracy: 0.683192416090187

Test set accuracy: 0.682904961147639

Thank You :)

