

Bias in 311 Response

ECO395M: Data Mining

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Abstract

Abstract goes here. See Appendix D for some misc ramblings and thoughts.

Keywords: 311, City governance, Classification

Introduction

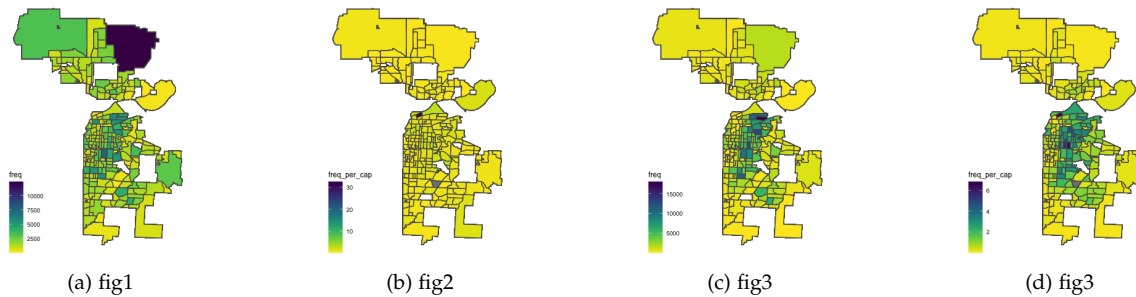


Figure 1: Spatial patterns of 311 reports and property violations

Data and Methods

test1

test2

Results

test3

test4

Dataset	Records	Time range	Temporal Resolution	Spatial Resolution	Source and Description
Citizen satisfaction survey	21,046	2014-2017	Quarterly	Individual (household)	Citizen survey on level of satisfaction with city services, use of city services, and household characteristics each fiscal year provided by Kansas City (Missouri)
311 service requests	1.19M	2013-2018	Daily	GPS (X, Y)	All citizen service requests and non-emergency complaints, provided by KC 311 through OpenData KC
Property violations	610k	2015-2018	Daily	GPS (X, Y)	Neighborhood code enforcement violations issued by the KC Neighborhood and Housing Service (NHS), provided by KC NHS through OpenData KC
Census population	246	2010	Annual	Neighborhood	KC Census population in 2010, U.S. Decennial Census and American Community Survey

Table 1: Description of dataset used

Table 2: Results of the logistic regression model for 311 use

term	estimate
(Intercept)	-1.376
female	0.091
age_18_24	-0.786
age_25_34	-0.509
age_35_44	0.049
age_45_54	0.000
age_55_65	0.091
age_over65	-0.070
income_under30	0.096
income_30_59	-0.126
income_60_99	-0.260
income_over100	-0.587
asian_pac_isl	-0.497
white	-0.058
amer_ind_esk	-0.080
black	0.352
race_other	0.198
hispanic	-0.016
own_prop	0.365
rent_prop	-0.014
internet_access	-0.054
recycle_freq_weekly	0.820
recycle_freq_biweekly	0.655
recycle_freq_monthly	0.592
recycle_freq_never	0.430
visit_city_website	0.776
visit_comm_center	0.237
visit_park	0.296

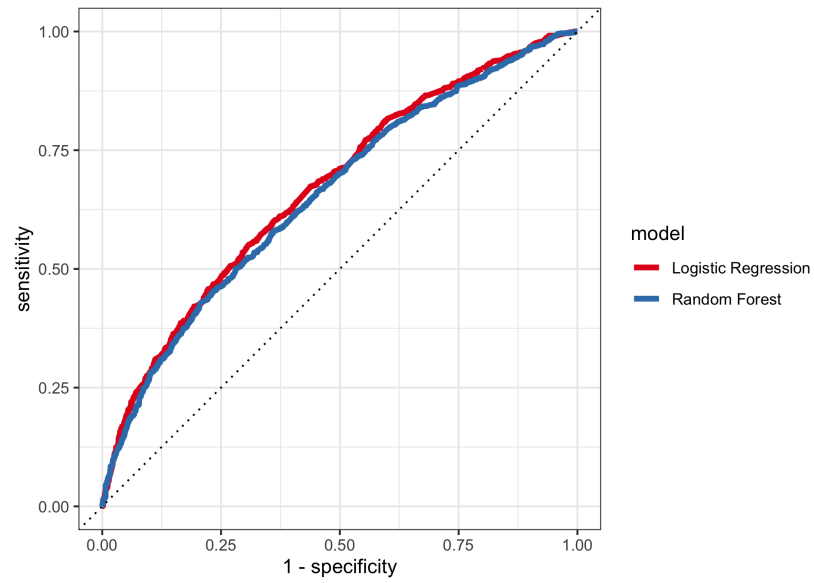


Figure 2: ROC (Receiver Operating Characteristics) Curve of the logistic regression and random forest model

Conclusion

References

Appendix

Appendix

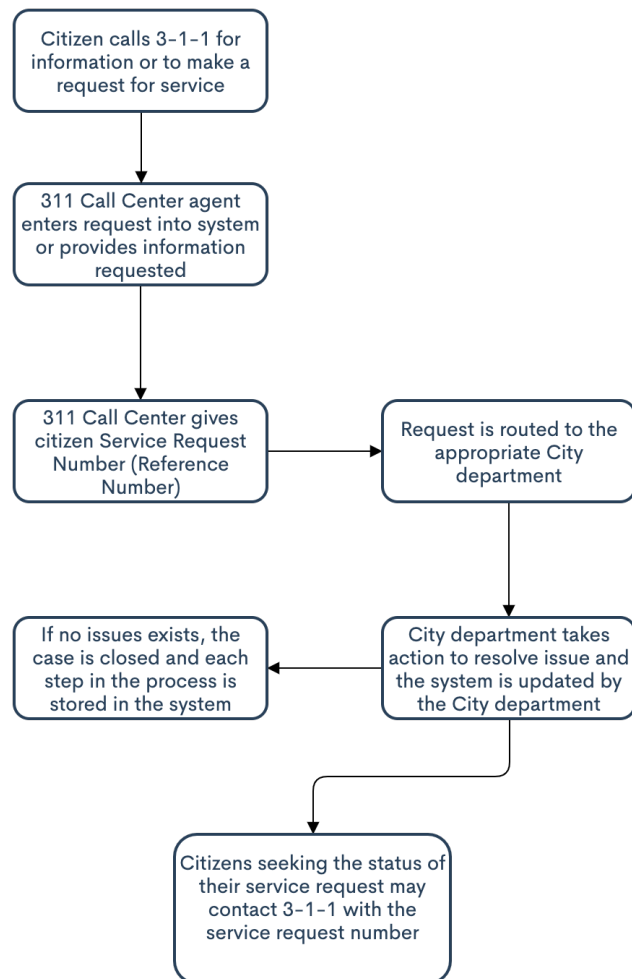


Figure 3: 311 Service Request Process

Session Information

(Not run)