NYC RESTAURANT INSPECTIONS ANALYSIS

PRESENTATION BY ANDREA CABELLO

BUSINESS PROBLEM

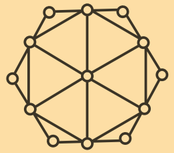
Understanding, automating and improving the process of Inspections

DATA

Restaurant inspections in New York City 2013 -2020

ANALYSIS

What can we learn from this data?



LEARNING MODEL

Reduce occurrence of Crtical Flags

OVERVIEW

24 527

TOTAL RESTAURANTS INSPECTED

117 697

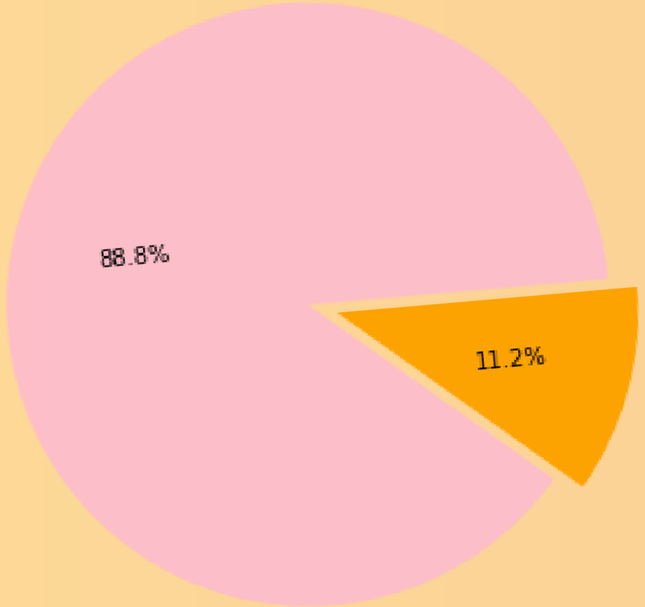
TOTAL VIOLATIONS

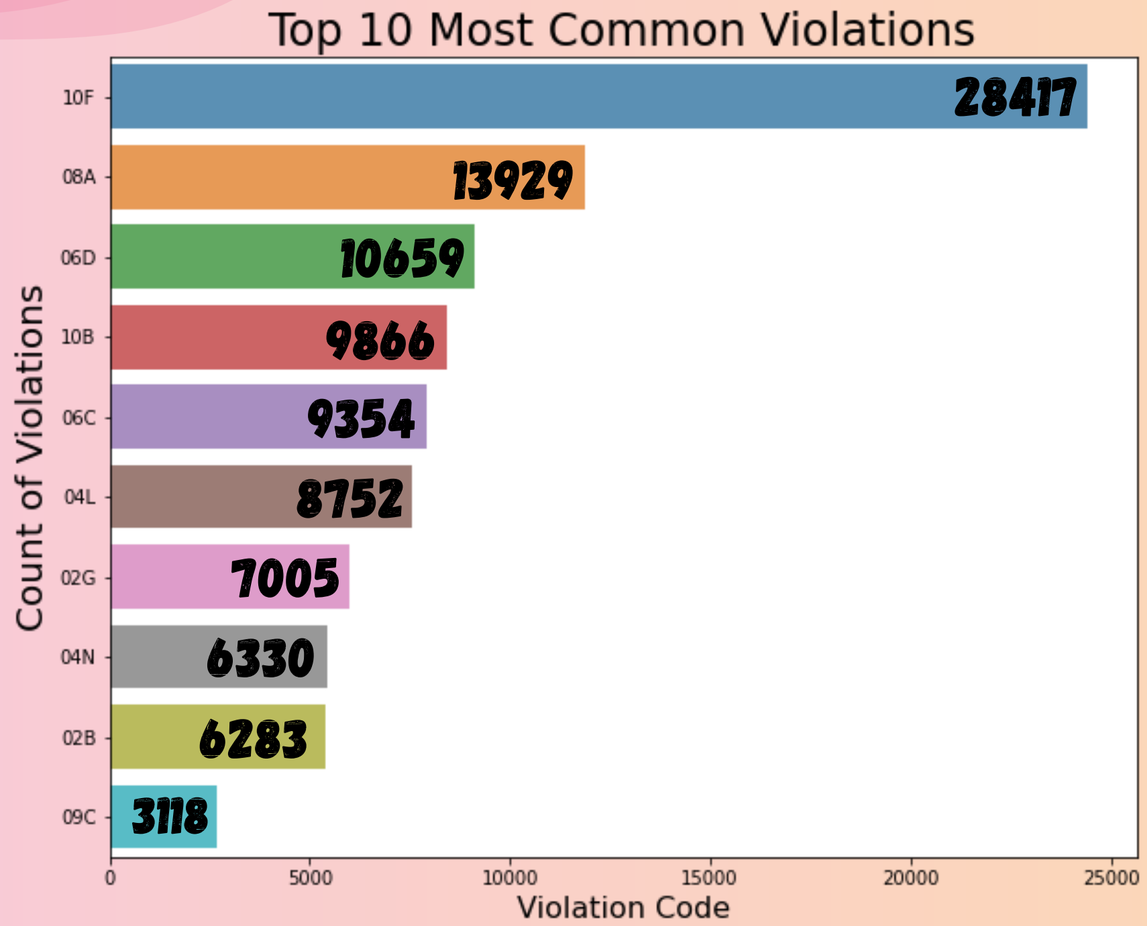
recorded between 2013 and 2020.

4.8

AVERAGE VIOLATIONS PER RESTAURANT

11.2% OF RESTAURANTS ARE CHAIN OWNED OR FRANCHISES.





10F: Non-food contact surface improperly constructed.

08A: Facility not vermin proof.

06D: Food contact surface not properly sanitized after each use.

10B: Plumbing not properly installed or maintained.

06C: Food not protected from potential source of contamination during storage, preparation, transportation, display or service.

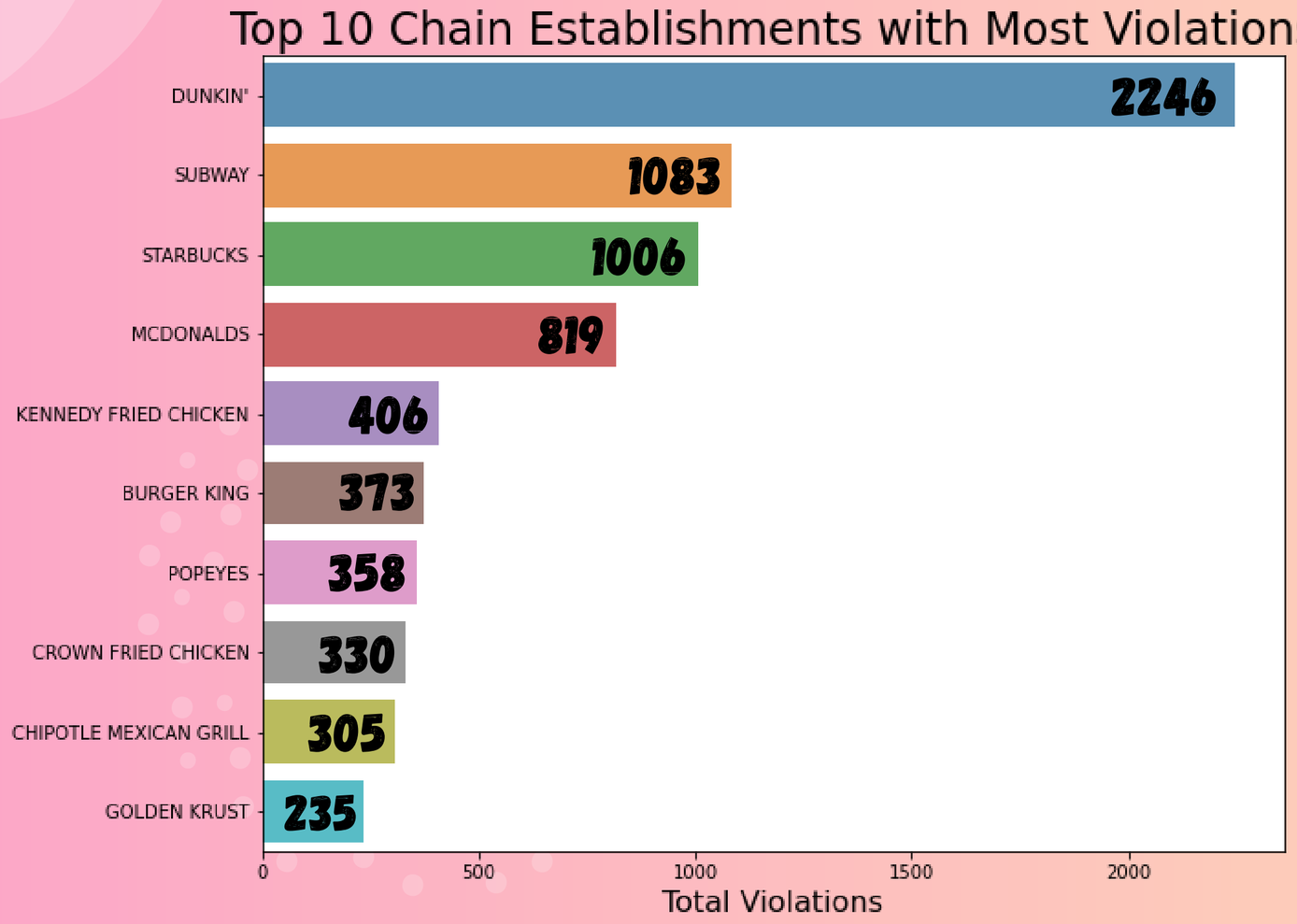
04L: Evidence of mice or live mice present in facility

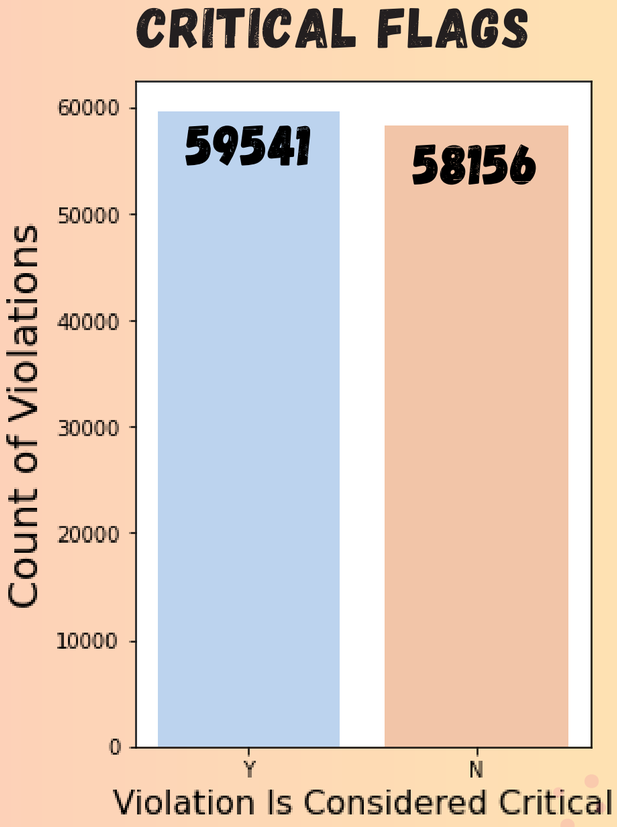
02G: Cold food item held above 41° F.

04N: Flies present in facility's food and/or non-food areas.

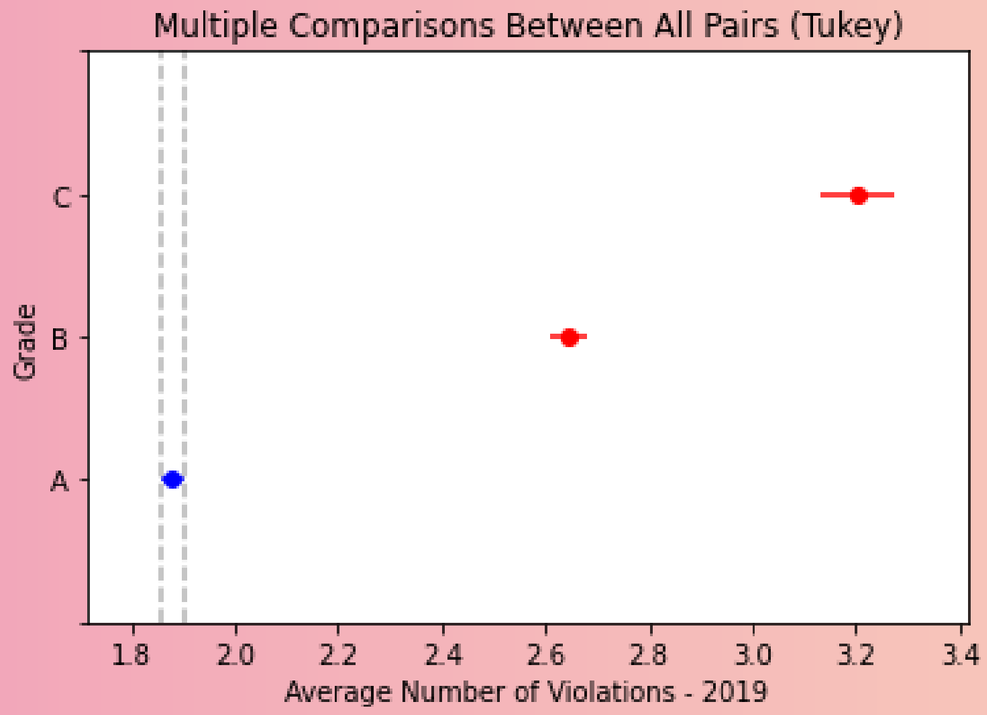
02B: Hot food item not held at or above 140° F.

09C: Food contact surface not properly maintained.


Top 10 Chain Establishments with Most Violations
DUNKIN'
SUBWAY
STARBUCKS
MCDONALDS
KENNEDY FRIED CHICKEN
BURGER KING
POPEYES
CROWN FRIED CHICKEN
CHIPOTLE MEXICAN GRILL
GOLDEN KRUST
2246
1083
1006
819
406
373
358
330
305
235
0
500
1000
1500
2000
Total Violations

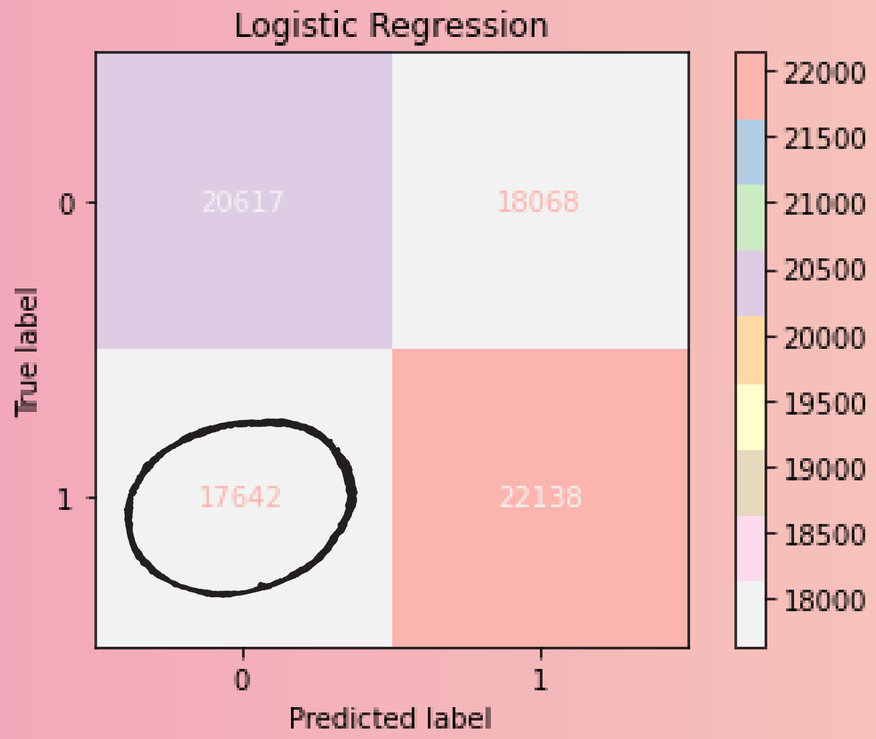

CRITICAL FLAGS
Count of Violations
60000
50000
40000
30000
20000
10000
0
59541
58156
Y
N
Violation Is Considered Critical

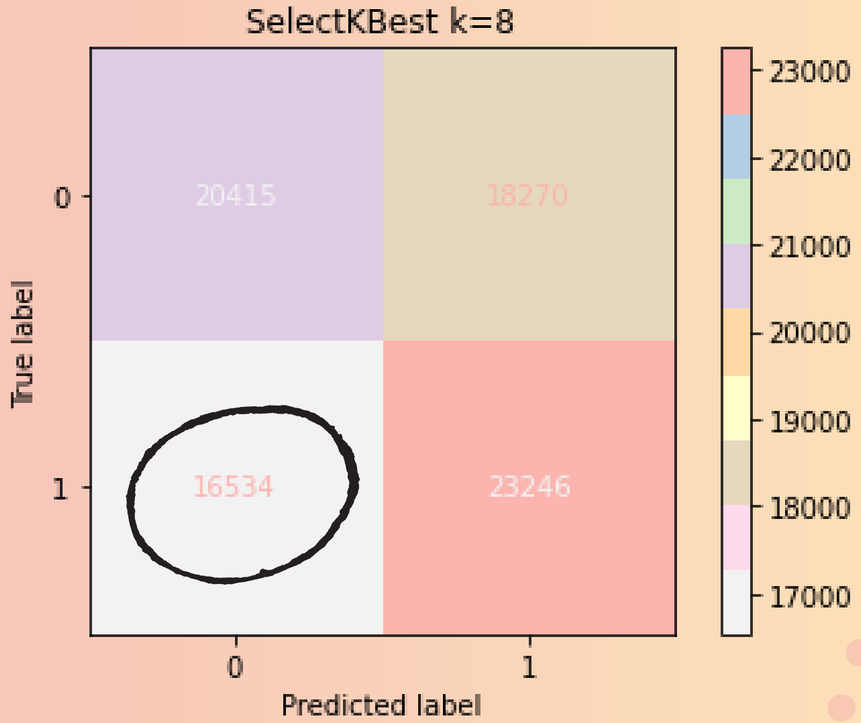
ANALYSIS BY GRADE



COMPARING AVERAGE NUMBER OF VIOLATIONS BY THE GRADE A RESTAURANT HAD AT THE TIME OF INSPECTION.

COMPARING LEARNER MODEL RESULTS





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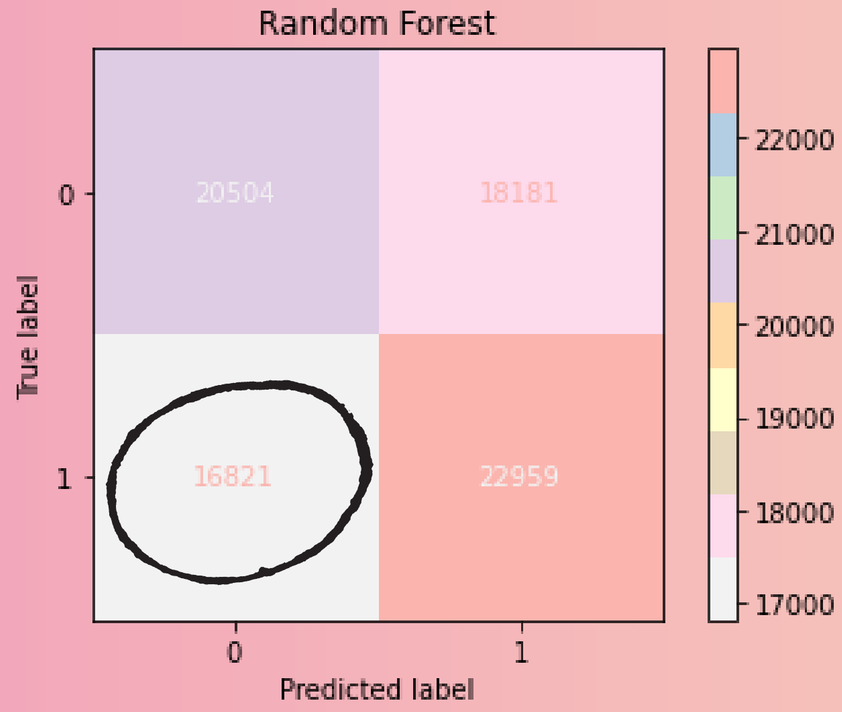

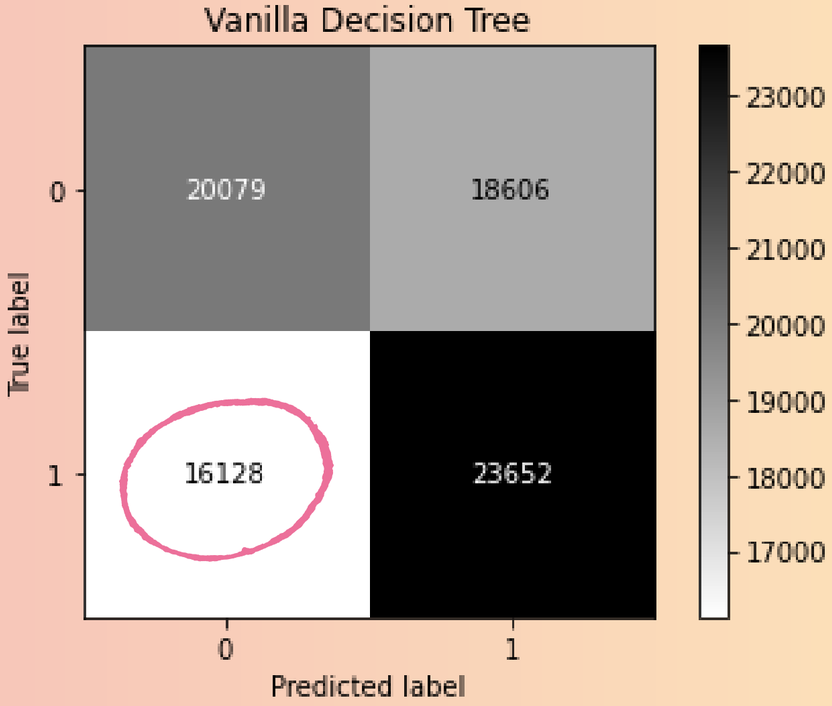

80%

OF VIOLATIONS WERE LABELED IN A WAY THAT HELPS PROTECT NEW YORKERS.

CONCLUSIONS & FUTURE WORK

- In real life, it is very unlikely for an eatery to have no violations at all during service.
- The important thing is to differentiate which of these violations could cause eaters to get sick and address them.
- Based on the Inspection Type and Grade an establishment gets, we can predict the likelihood of Critical violations.
- Tuning our model: Reduce the current 22% False Negative rate.

Thank You!