Predicting Food Inspection Outcomes in Chicago

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Objectives

This research project explores modeling outcomes of health inspections of food establishments in the city of Chicago. We had the following goals:

- Design a model that can be portably applied to new data.
- Define a reasonable cost function.
- Successfully predict inspection outcomes to optimize the social costs of inspections

Introduction

The City of Chicago's Department of Public Health is responsible for inspecting upwards of 15,000 establishments that sell food within the city limits. Previous work published by the City of Chicago's advanced analytics team showed that using historical inspection data and a variety of other information helped predict establishments that were at the highest risk of critical violations. That previous work is already several years old. In this project, we aimed to replicate the results of the previous study on an updated dataset and, where possible, to include new, potentially more predictive data to optimize the inspection process further.

This project is an example of data science applied for the public good. Citizens are less likely to be exposed to critically unsafe food establishments, while inspectors are able to work more effectively.

Placeholder

Image

Figure 1: Figure caption

Data Collection

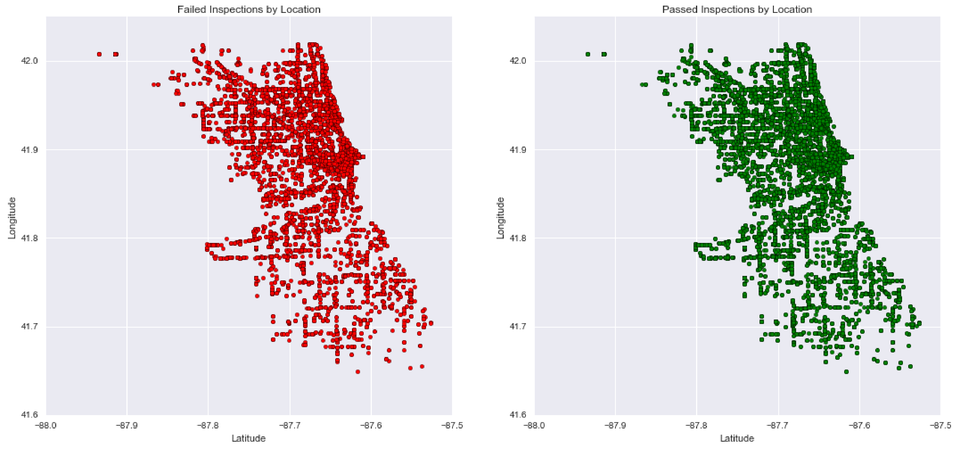

Figure 2: Spacial Visualization of Inspection Results

Important Result

Lorem ipsum dolor **sit amet**, consectetur adipiscing elit. Sed commodo molestie porta. Sed ultrices scelerisque sapien ac commodo. Donec ut volutpat elit. ‘

Modeling Process

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$$E = mc^2 \tag{1}$$

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$$\cos^3\theta = \frac{1}{4}\cos\theta + \frac{3}{4}\cos 3\theta \tag{2}$$

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Results

Placeholder

Image

Figure 3: Figure caption

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Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table 1: Table caption

Conclusion

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Future Work and Open Questions

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- Eu facilisis est tempus quis
- Duis porta consequat lorem

References

Acknowledgements

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PLACEHOLDER LOGO

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