

Each year roughly 1 among 6 Americans gets food poisoning.([CDC](#))

Food safety is a sensitive subject that is taken very seriously by the public authority.

The city of Chicago is trying to solve this problem through regular food inspections. Criticized by the local news, these processes have shown their limitations.

In this research, we analyzed inspections and combined them with consumers opinions on social media in order to get a clearer understanding of the food climate in Chicago.

State of food in Chicago

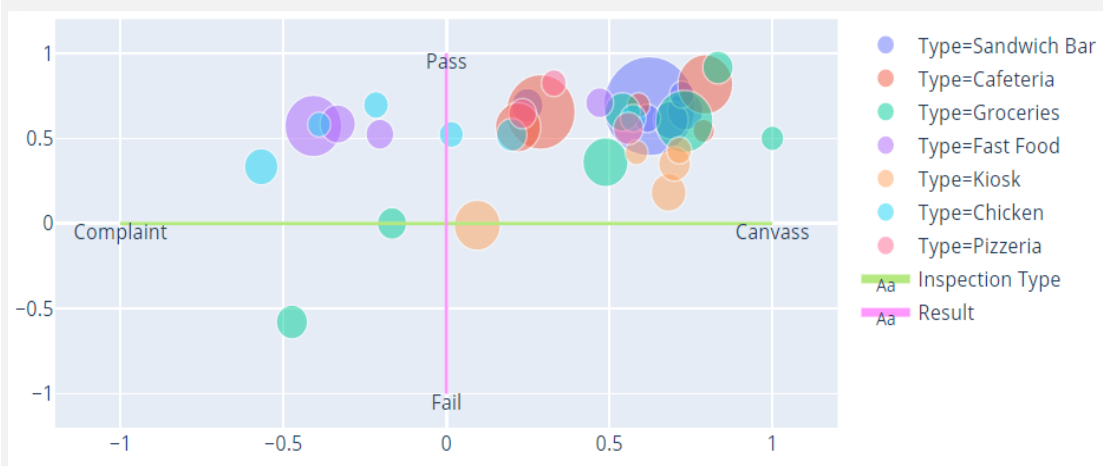
Deep dive into the deep dish pizza

Ayadi Aymen, Chahed Ridha, Hammami Haitham, Kaabachi Bayrem

Food chains



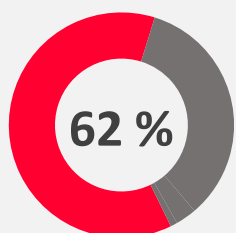
Evolution of food chains regarding their type of inspection and their corresponding results



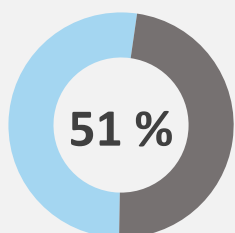
Yelp analysis



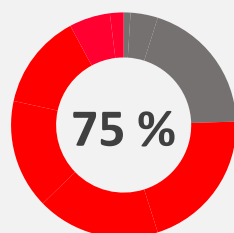
We analyze the yelp pages of restaurants that have been suspected of food poisoning by the city officials.



62% of those restaurants are considered "cheap eats" on Yelp.



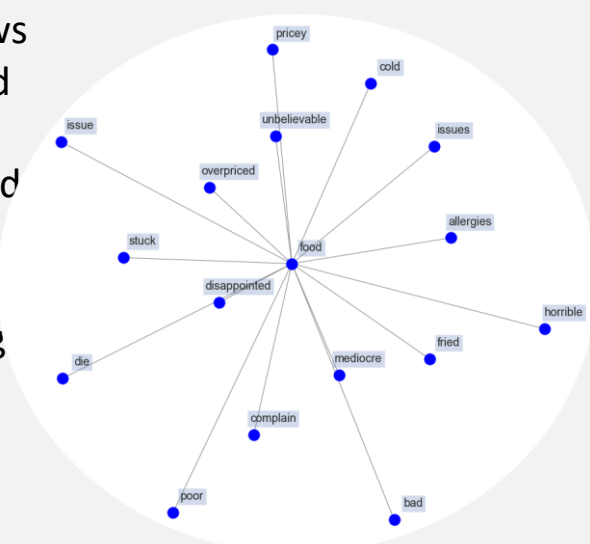
51% of those restaurants are currently closed.



75% of those restaurants have an overall rating on Yelp less than 4/5.

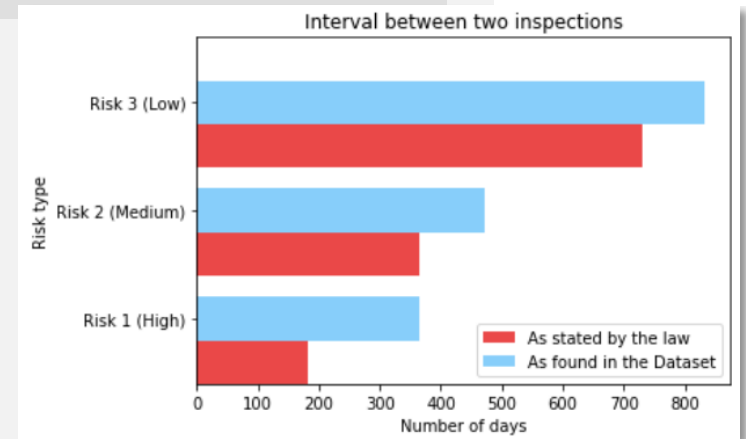
Our approach was to perform text analysis over the reviews of food-poisoning suspected restaurants.

Reviews with low ratings had negative sentiment scores a exhibited a critic quality foo We visualize a graph making the link between most occurring negative words related to the term «food».



Food inspections

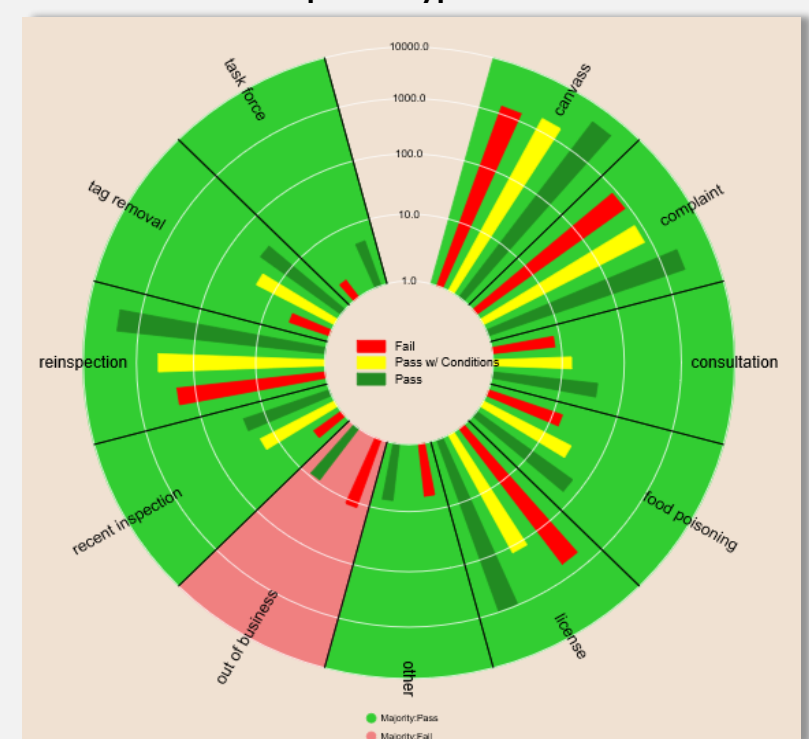
EPFL



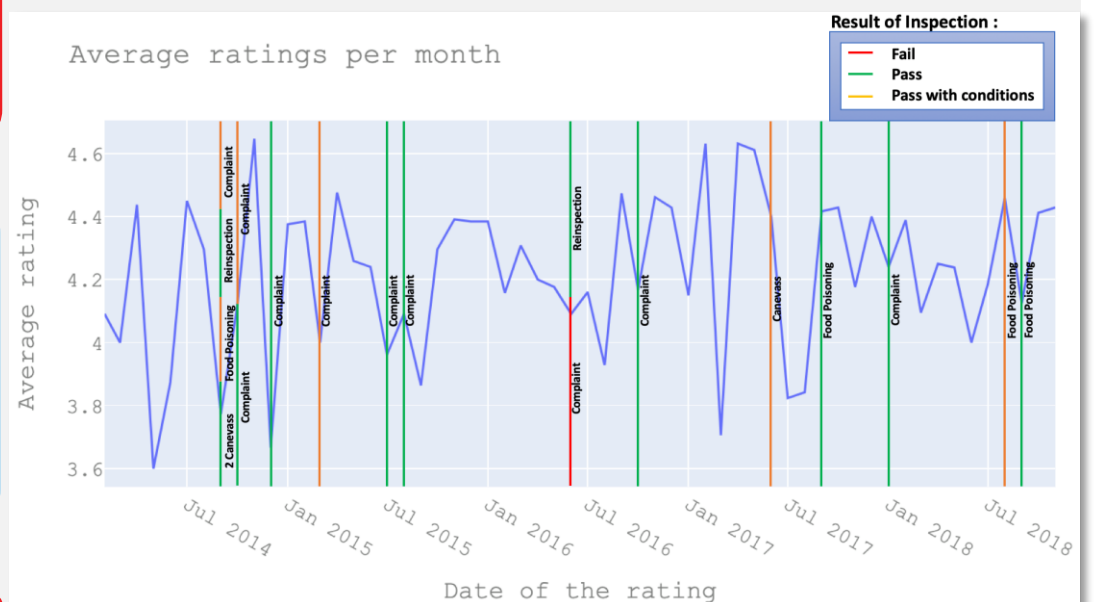
Does Chicago need more inspectors, or more realistic rules?

To answer this, we checked the number of inspections that businesses with suspected food poisoning were having and we found that these establishments were having two inspections per year, which is a frequency higher than the average and nevertheless demanded by the law. This observation leads us into thinking that even though the number of inspections meets the requirements, it is not enough to prevent foodborne illnesses. To test this even further, we analysed inspections that passed before less than a month of a suspected food poisoning inspection. We found that the majority of the violations listed in these inspections are minor violations. Among these violations, the most frequent ones are food-related and are strong hints of a potential case of food poisoning:

Distribution of inspection types for food chains



Average ratings per month



Hence, it is possible to detect food poisoning signs through reviews text analysis.

We also analyzed the progression of ratings over time along with results of city inspections: Overall rating tends to increase after passing inspection results as perceived in the visualization.