311 Data Project

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The increased availability of open data in cities is an emerging information asset for better understanding of the dynamics of urban infrastructure. This includes crowd sourced data and community reporting. A well-known source of this type of data is the non-emergency hotline “311” which is available in many U.S. cities. “311” is the US Federal Communications Commission code assigned for non-emergency telephone communication that allows residents to ask for government services. This may contain information pertaining to the performance of physical facilities, condition of the environment, or residents’ experience, comfort and wellbeing. The goal of this study is to find spatial-temporal relationships considering the top complaint types in Urban Areas where 311 Data is available. In NYC more than than seven years 311 (NYC311) call from 2010-present is available from https://opendata.cityofnewyork.us/. Prof. Grossberg and his group at NOAA-CREST developed an algorithm for calculating the spatial distribution of complaints across NYC’s five boroughs, and presented an approach for separating the features that represent reporting bias from those that relate to actual infrastructure system performance. The normalized complaint data is presented in the monthly basis with the spatial resolution of 1100 ft.

The students in this project are supposed to:

1- Use the normalized 311 product and find the correlation between top 30 frequent complaint data.

2- map the location with the highest correlation between specific complaint data during each season.

With more than one student (2 at most) we may consider other large urban locations such as Los Angeles, Chicago and/or Boston.

Students should be comfortable with a bit of programming. Python, R or Matlab preferred.