Farmer's markets are a key indicator of the health of a population. The availability of food closer to where people live creates a sustainable food system and enables people to meet the people that grow or raise the food, increasing trust that the food is produced the way the clients desire.

Problem

People are more likely to reap the benefits of farmer's markets if the markets are easily accessible. The goal of this project is to determine which areas have few or no farmer's markets. This project will also explore where farmer's markets are growing in presence and where they are declining.

Clients

The main clients for this analysis are:

- Market site owners and organizers: This data can help those that organize markets find opportunities for expanding the availability of local food to underserved populations.
- Farmers: This data can help farmers find new clients to expand their businesses.
- Consumers: This data can help consumers access local food, even when they use credit cards and government programs such as Supplemental Nutrition Assistance Program (SNAP) and Women Infant Children (WIC) and get to know the people that produce the food they eat, increasing the likelihood that the food is produced the way that the consumers desire, such as without growth hormones, pesticides, or cramped, unsanitary conditions.

Data

The data comes from the Food Environment Atlas data, updated March 12, 2018. This dataset was compiled by the United States Department of Agriculture (USDA). This dataset contains about 3,144 records, one for each county or county-equivalent in the United States (such as boroughs in Alaska and parishes in Louisiana), and 24 columns. This dataset was accessed from [*https://www.ers.usda.gov/data-products/food-environment-atlas/data-access-and-documentation-downloads/*].

Approach

A. Data Wrangling and Cleaning

1. Deal with missing values
2. Removing irrelevant columns
3. Make values more consistent for cleaner analysis

B. Exploratory Data Analysis

1. Regression analysis to determine factors that most influence availability of farmer's markets
2. Identify patterns and correlation between the different variables
3. Use data visualization to answer questions

C. Predictive Analysis

1. Apply machine learning to see if farmer's markets' presence can be predicted based on their having more than produce available and accept more than just cash as payment.

Deliverables

The deliverables will include a report of the findings, including a slide deck, and R code. Everything will be published on GitHub.