Opening a Fitness Center Based on Regional Health Patterns

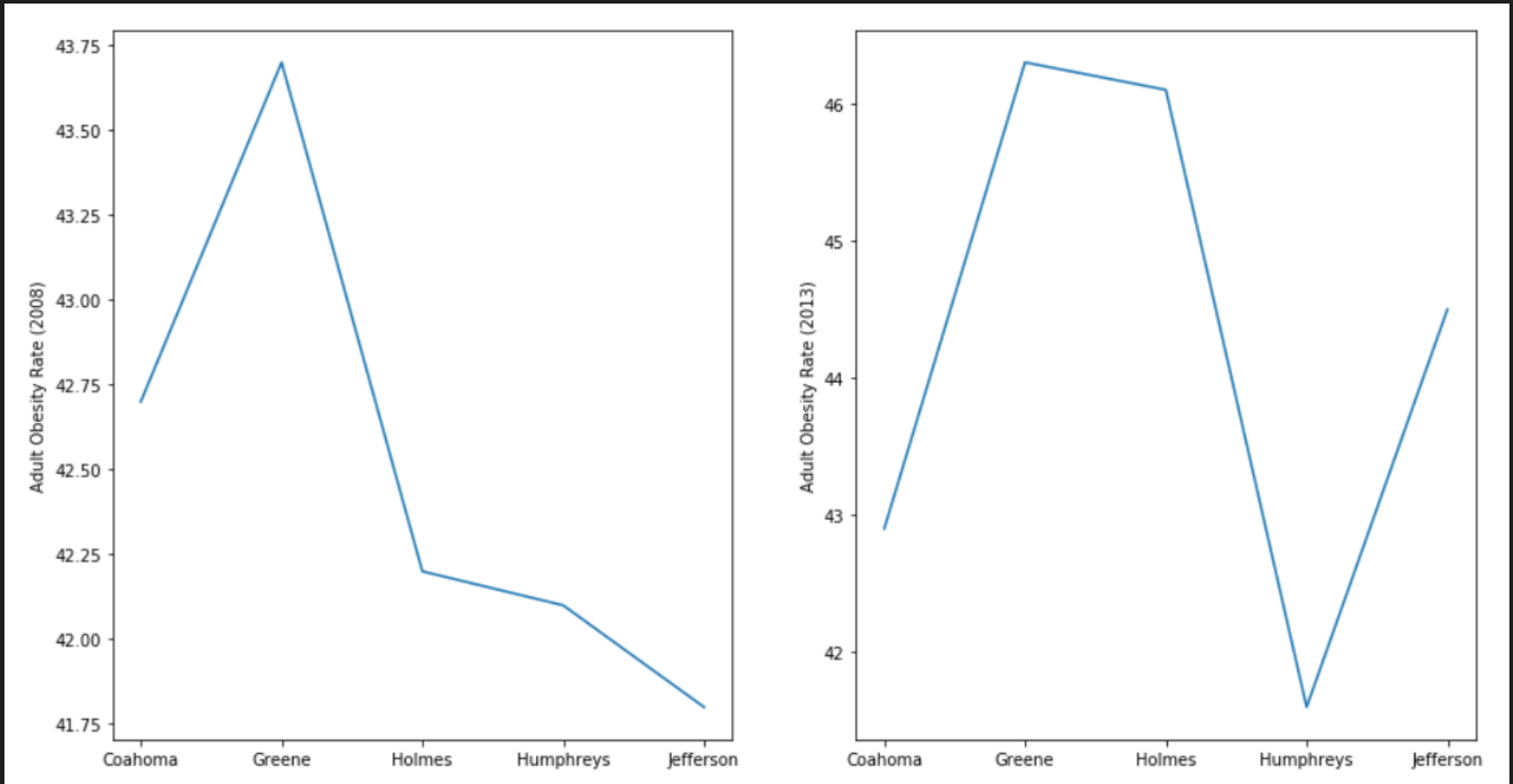
Obesity Rates in America

- In 2015-2016, about 39.8% of adults in America were obese. These rates have been rising every year.
- Opening a fitness center in a highly unhealthy location where the most people would benefit from it could help slowly reverse this trend.
- Families and friends do not want to have any unhealthy loved ones.
- This could also possibly assist medical offices and hospitals, as a decrease in unhealthy Americans could lead to less stress for these locations.
- *Can we use available data to determine optimal locations for opening new fitness centers?*

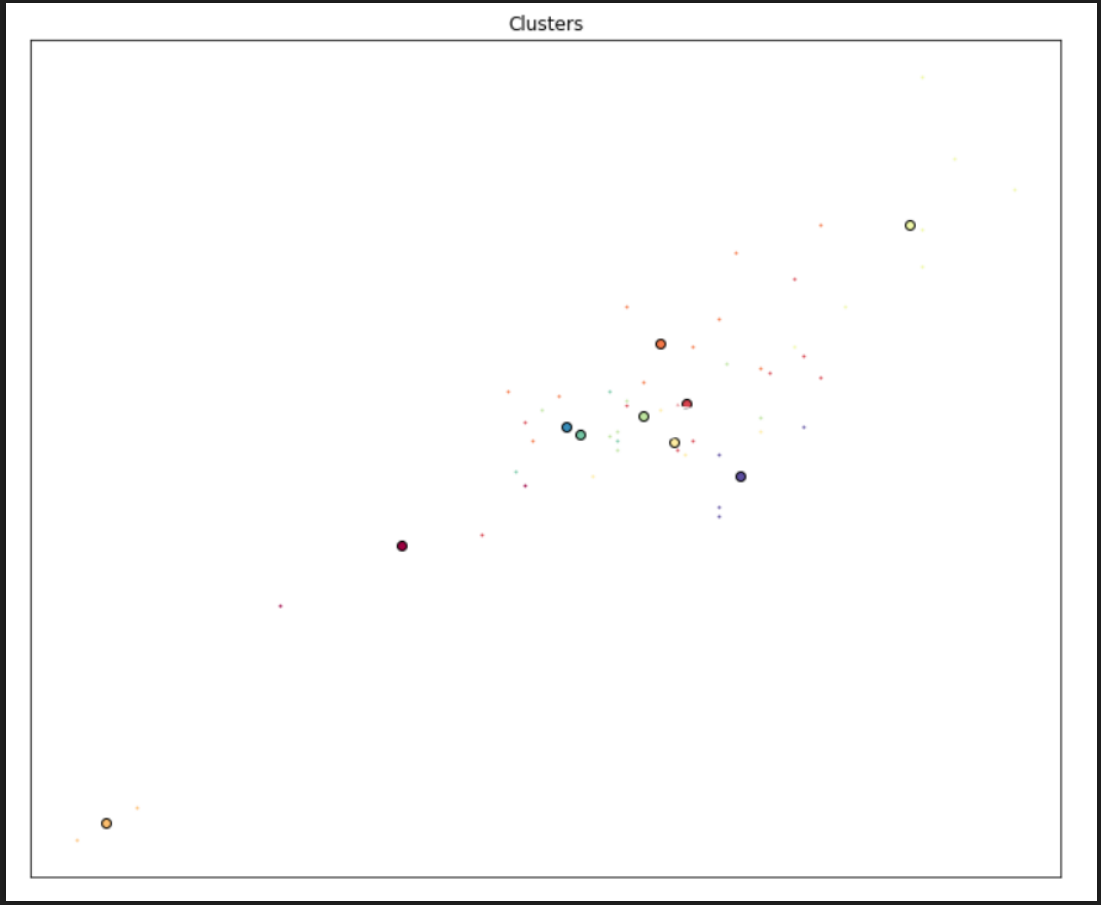
Data Acquisition

- Data on American counties and their respective health statistics comes from USDA ERS's Food Environment Atlas (https://www.ers.usda.gov/data-products/food-environment-atlas/data-access-and-documentation-downloads/)
- Total counties in dataset: 3,142, final count after removing entries with missing data was 3,014
- After cleaning data, 10 features total used for analysis

Top 5 Counties for Adult Obesity Rate in 2008 and 2013

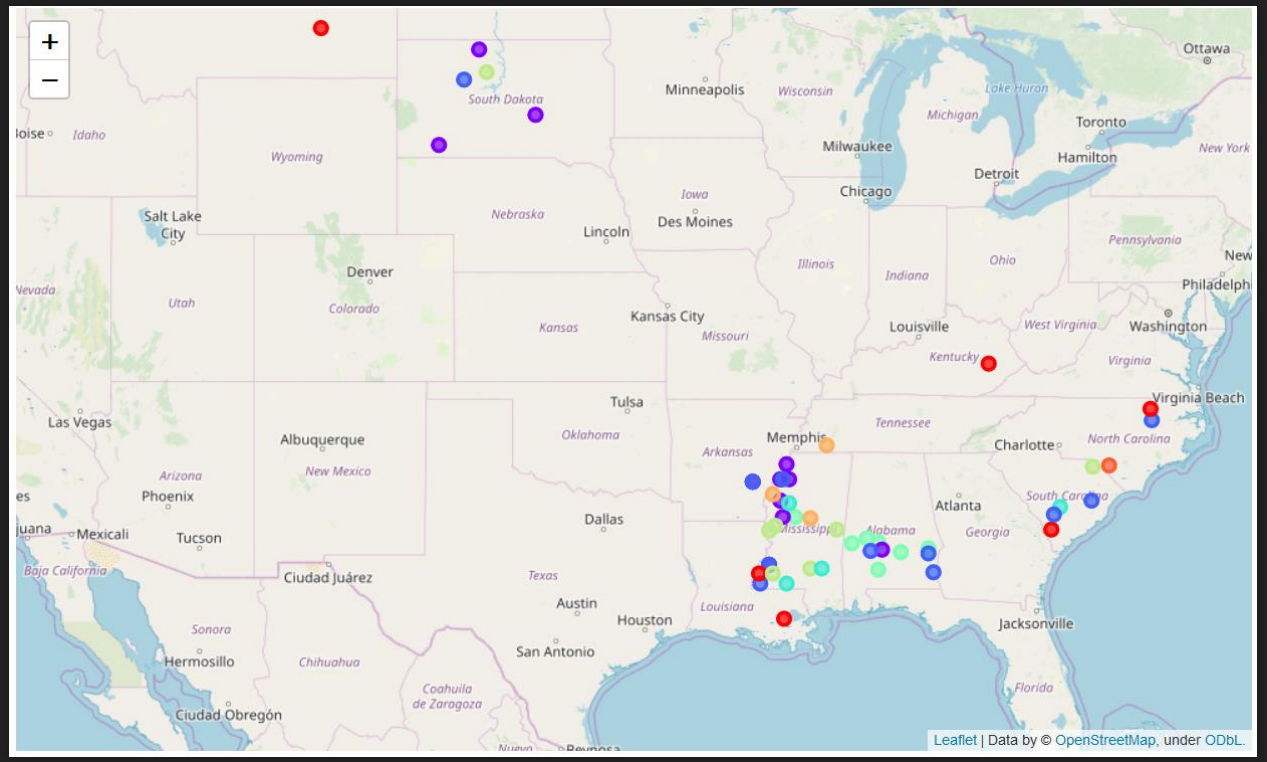


Graphed Data Clusters



- 50 counties with highest obesity rates separated into 10 clusters
- Large dots are cluster centers
- Small dots are each individual county

Clusters on Map of United States



- Map shows top 50 counties in their geographical locations
- Colored according to which cluster they're in
- Largest groups of clusters located in southern/southeastern United States
- Somewhere in these regions would likely be the best area for a fitness center

Conclusion

- Analyzed available data to determine the optimal location in the United States for opening a fitness center
- Machine learning used to cluster similar counties together
- No single location determined to necessarily be the best, final input will come from stakeholders and county officials