Should I open a bar?

Ari Libertun

I'm from Argentina
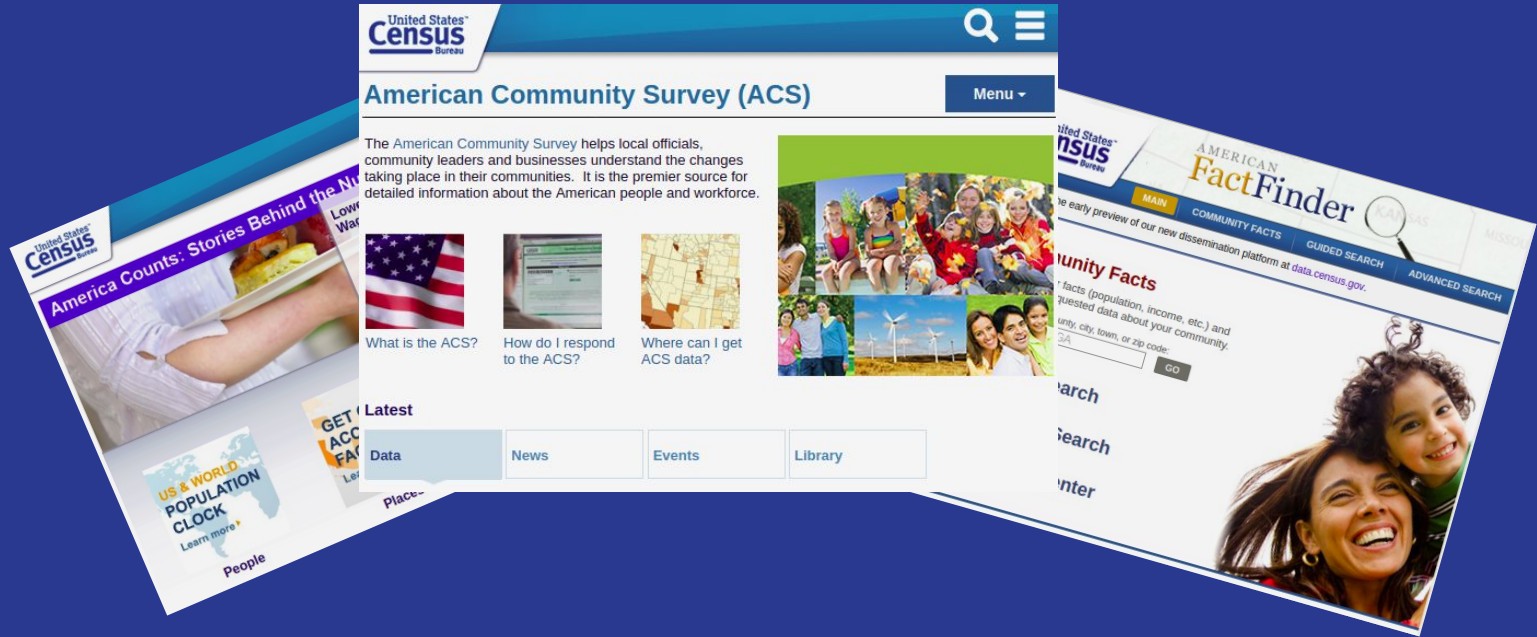
Physics PhD
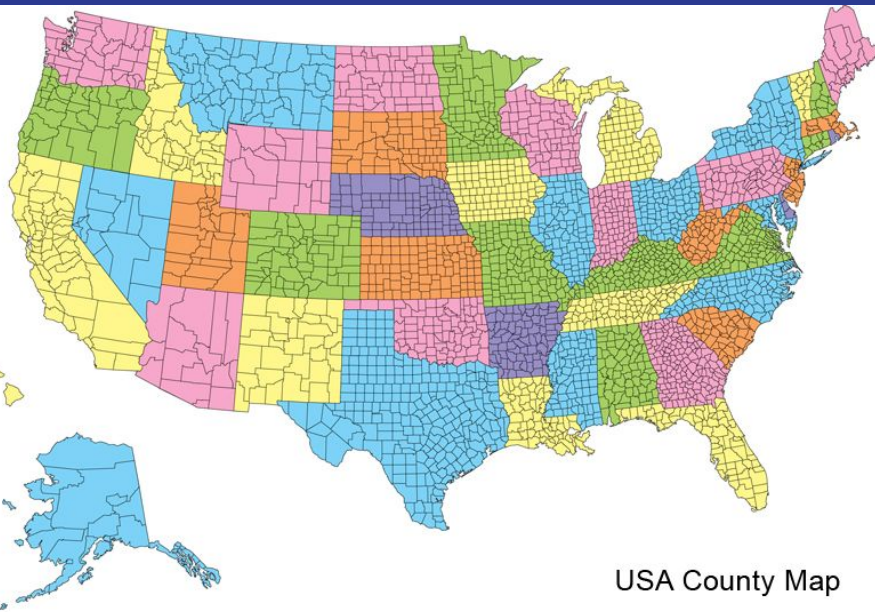
Independent Consultant

What data did I use?

NAICS: 7224 - Drinking places (alcoholic beverages) = Bar

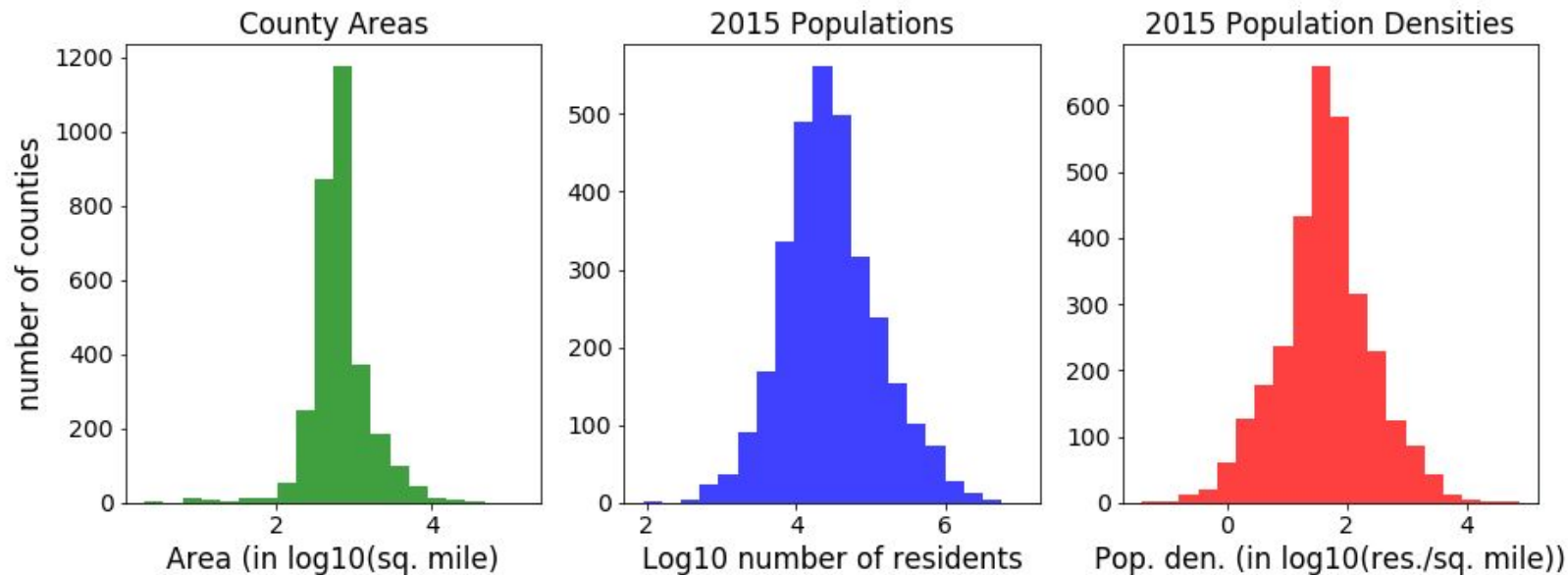# US Counties

USA County Map

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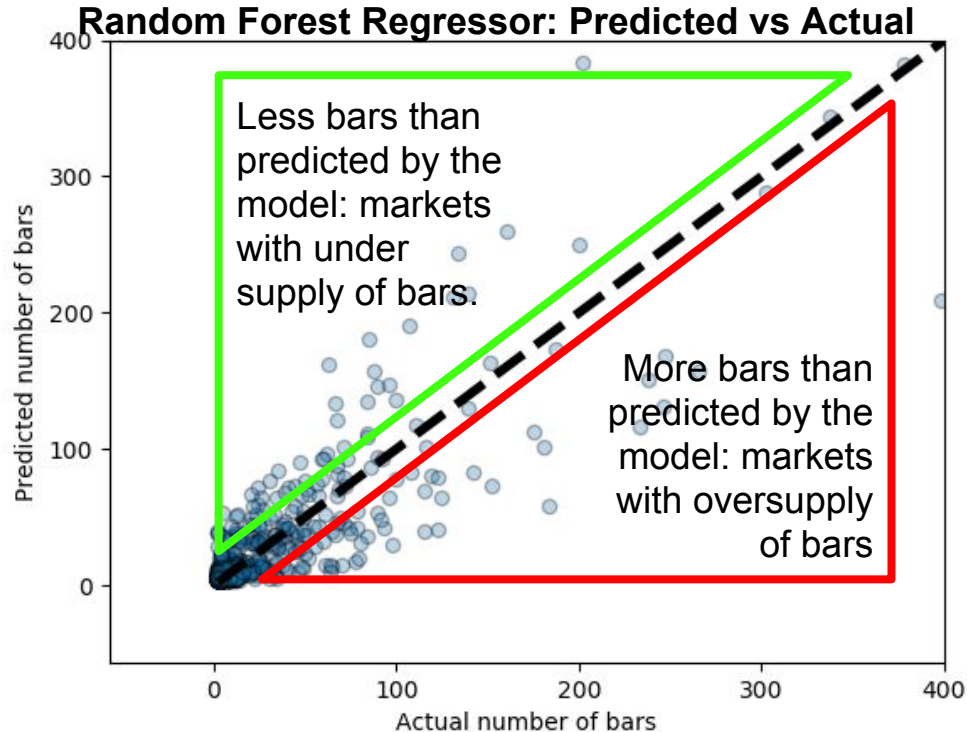
Fun Facts

- **Total:** 3142
- **Largest:** Yukon-Koyukuk Census Area, AK: 145,492 mi^2
- **Smallest:** Falls Church city, VA: 2 mi^2
- **Most People:** Los Angeles County, CA: 10,170,292
- **Least People:** Kalawao County, HI: 89
- **Most Dense:** New York County, NY: 72,586 res./mi^2
- **Least Dense:** Yukon-Koyukuk Census Area, AK: 0.04 res./mi^2

US Counties

EDA: histograms showing the great variation among counties on this three characteristics. The horizontal axis are in log10, meaning that numbers indicate the number of digits of those quantities.

The Data Science

Random Forest Regressor: Predicted vs Actual

Less bars than predicted by the model: markets with under supply of bars.

More bars than predicted by the model: markets with oversupply of bars

Predicted number of bars

Actual number of bars

Random Forest Regressor
20 estimators - Max depth: 6

Features:
Population: 0.62
Hotels: 0.23
Liquor Stores: 0.05
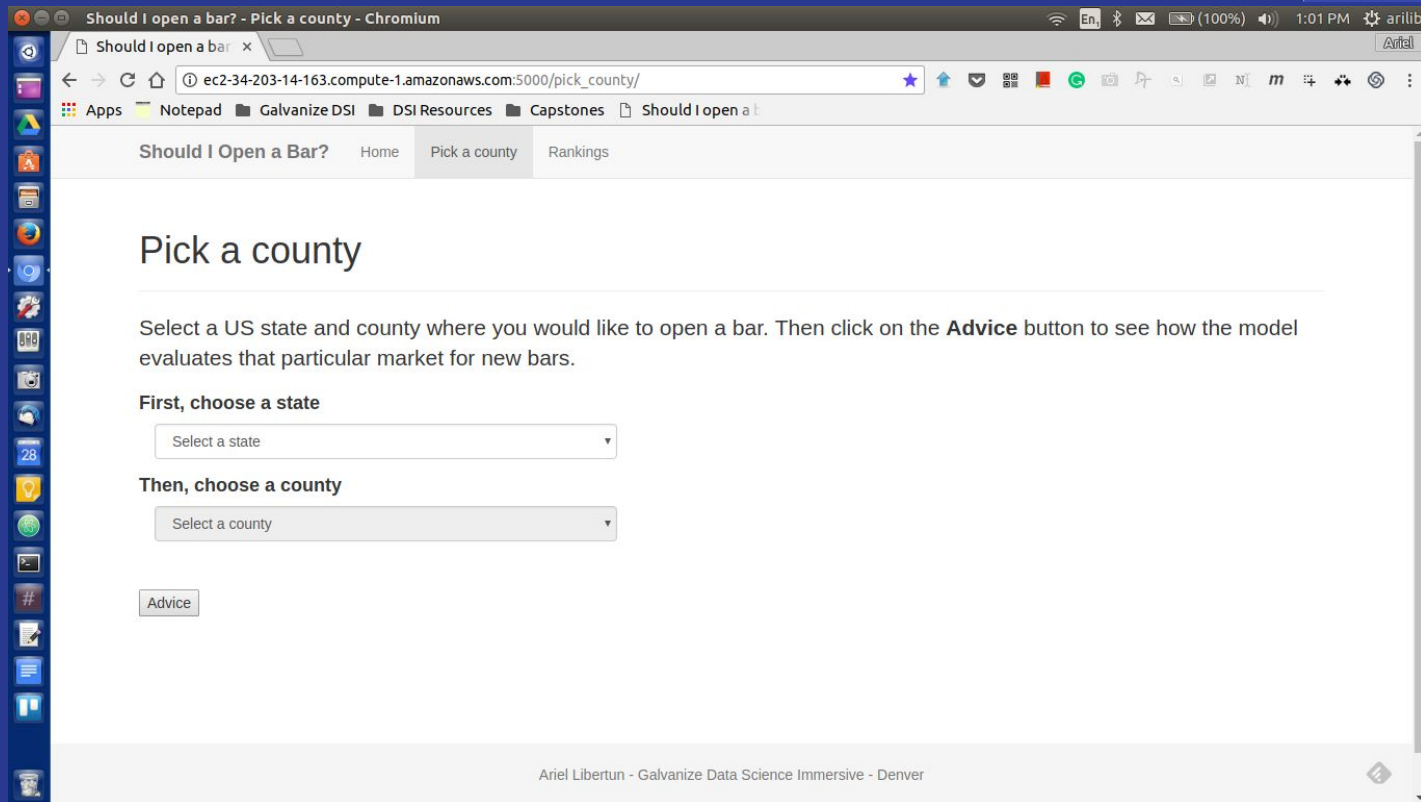Pop. Density: 0.04
Household Median Income: 0.04
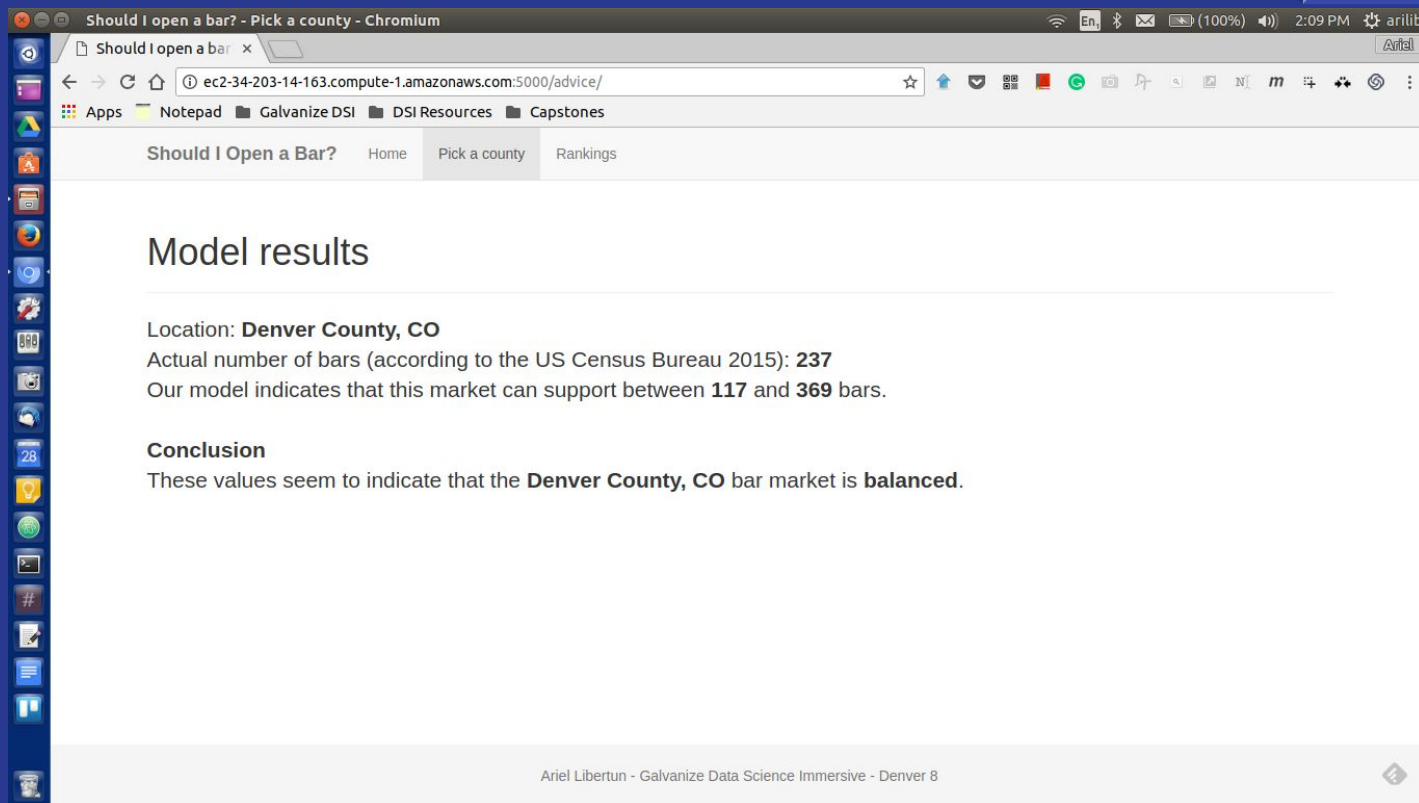Area: 0.02

How was it chosen:
Best explained_variance_score
Train: 0.93 - Test: 0.84

The Final Product

The Final Product

Should I open a bar?

- Used a **Random Forest Regressor** to estimate the number of bars a county can support based on the county area, population, and number of hotels.

- Used **publicly available data** generated by the US Census Bureau

- Made a tool to get a **basic market analysis** to aid in the answering of this question

- The project is available in a github repository and the final product is presented in a **website** format

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Data Science

https://goo.gl/sKtXVT