

THE BEST PLACE TO OPEN A GYM IN FLORIDA

AUTHOR: BORIS SILANTEV

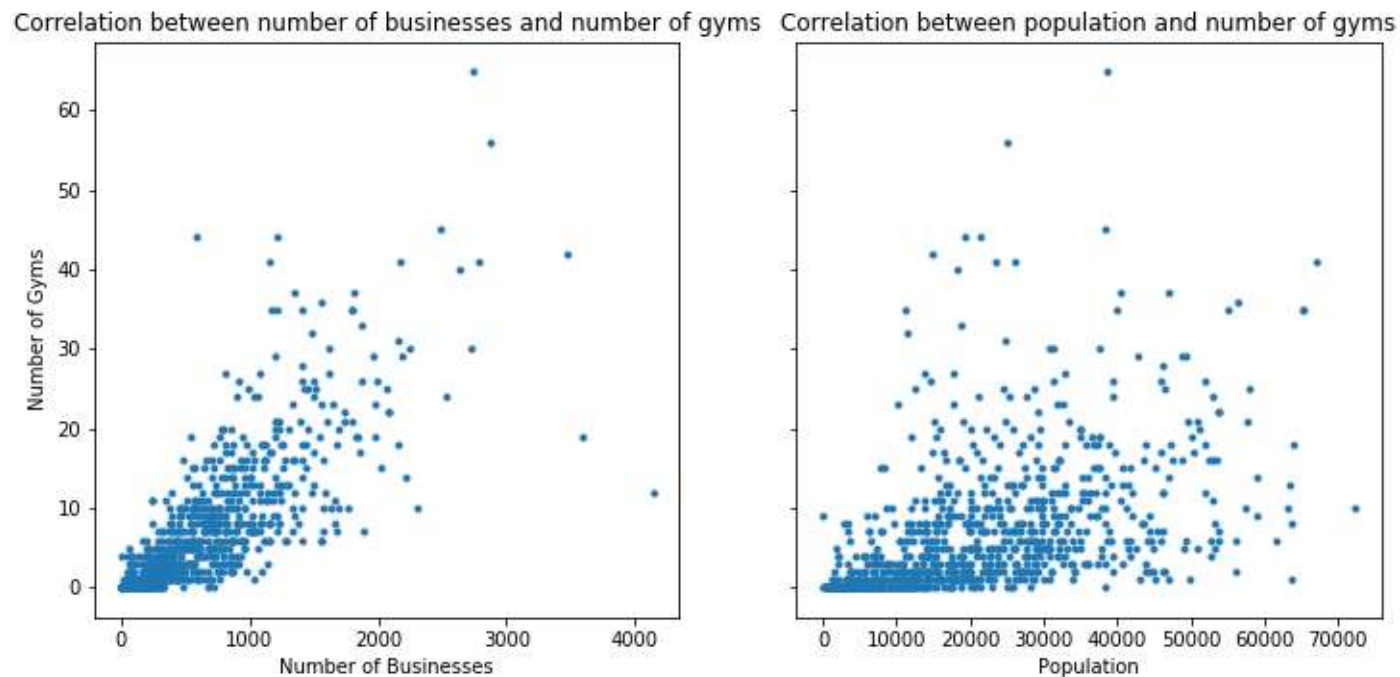
STAKEHOLDERS

- Investors of any size who wants to find a place to open a new gym
- Owners and managers of fitness clubs chains in Florida
- Other stakeholders related to fitness business

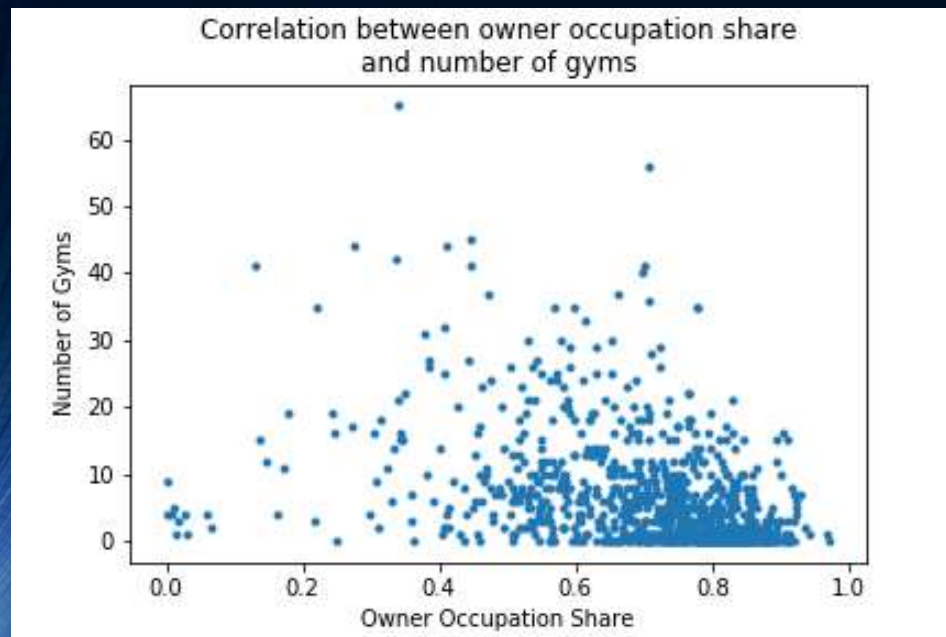
DATA

- Demographics and business information according to Census 2010 and Business Census 2011
- Individual income tax statistics for 2016
- Information about the venues from Foursquare
- In total 151 features of 917 zip code areas

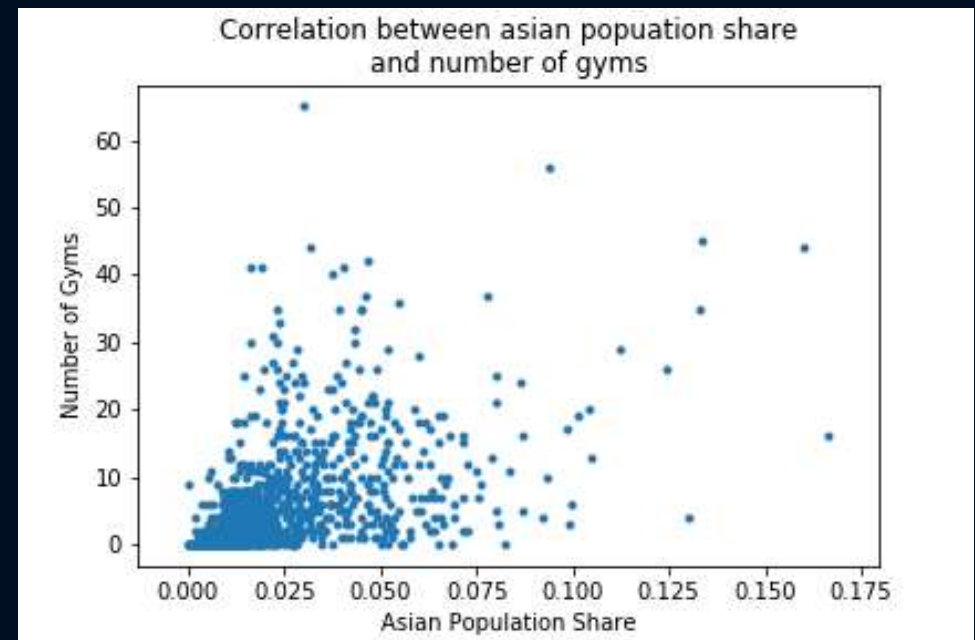
THE NUMBER OF BUSINESSES IMPACTS ON THE NUMBER OF GYMS MORE THAN POPULATION



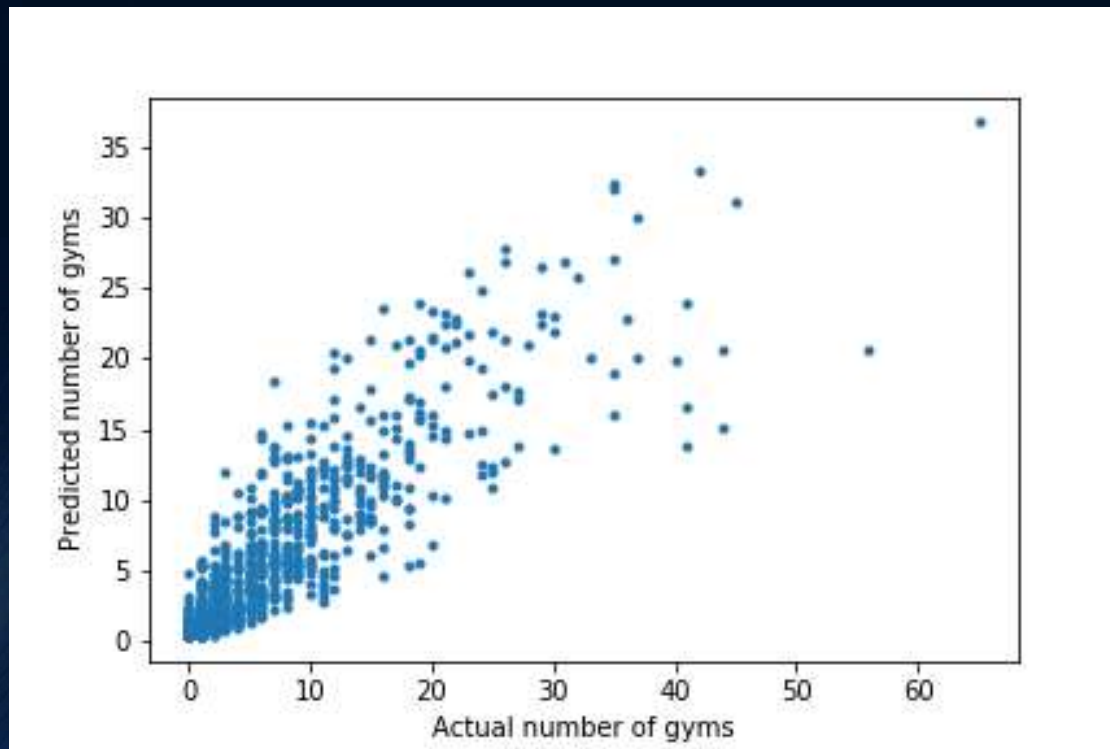
WHERE PEOPLE PREFER
TO LIVE RATHER TO RENT
THERE ARE LESS GYMS



THE MORE ASIAN
POPULATION SHARE THE
MORE NUMBER OF GYMS



PREDICTIVE MODEL



- Applied types of models: gradient boosting regressor, random forest regressor, blending of two models
- Final choice:
 - gradient boosting regressor
 - learning_rate=0.0085
 - subsample=0.22
 - max_features=0.63
 - max_depth=7
 - n_folds=4
 - n_splits=5

THE FEATURES THAT HAVE THE GREATEST INFLUENCE ON THE NUMBER OF GYM

- Number of businesses (as well as related Number of Employees, Annual Payroll, Number of Business Mailboxes etc.)
- Number of restaurants
- Asian population share
- Owner occupation share
- Land area
- Number of residents with annual income over \$ 200,000

THE INDEX

$$Index = \frac{Predicted\ number}{Actual\ number + 1}$$

- Index is a numerical evaluation of the area potential to open the fitness/gym. The higher index the higher potential.
- “+1” in the denominator is used because any new opening will change the actual number of gyms

ZIP CODE 32505

City: Pensacola

Population: **30,559**

Number of Businesses: **724**

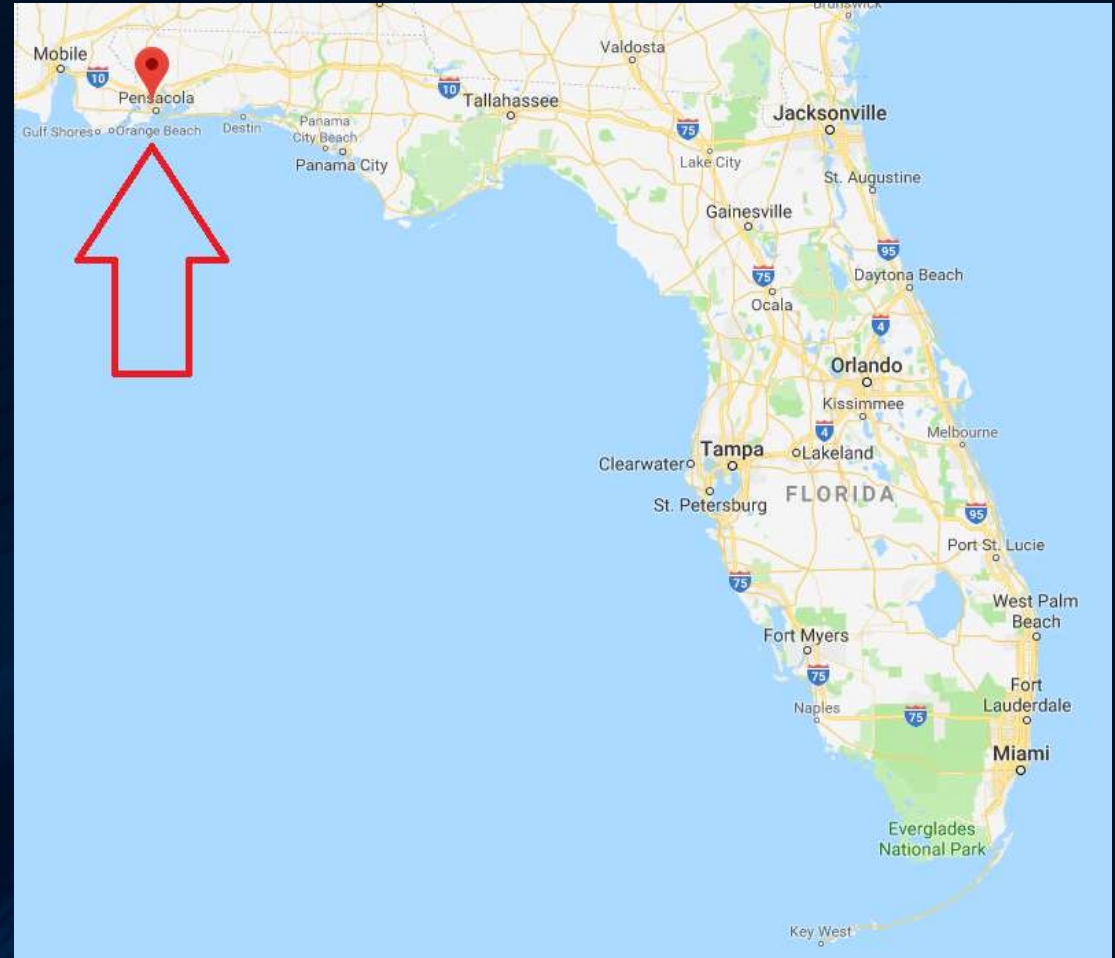
Number of Employees: **8,416**

8 restaurants: Greek Restaurant, Indian Grill, Fishing Hole, Mexican Restaurant, 2 Captain D's and 2 McDonald's

Golf Course, Bowling Alley, SUBWAY and Ross Dress for Less

Number of Gyms: **0**

Index: **4,69**



Best place in Florida to open a new fitness club or gym



ZIP CODE 33323

City: Fort Lauderdale

Population: **24,455**

Number of Businesses: **1,141**

Number of Employees: **31,564**

3 shopping malls: The Colonnade Outlets, Oasis At Sawgrass and Sawgrass Mills

A lot of restaurants and stores

Number of Gyms: **3**

Expected number of Gyms: **12**

Index: **3,01**

Place with great opportunities to open a new gym

ZIP CODE 32801

City: Orlando (Downtown)

Population: **16,028**

Number of Businesses: **1,845**

Number of Employees: **30,464**

Number of Gyms: **19**

Expected number of Gyms: **24**

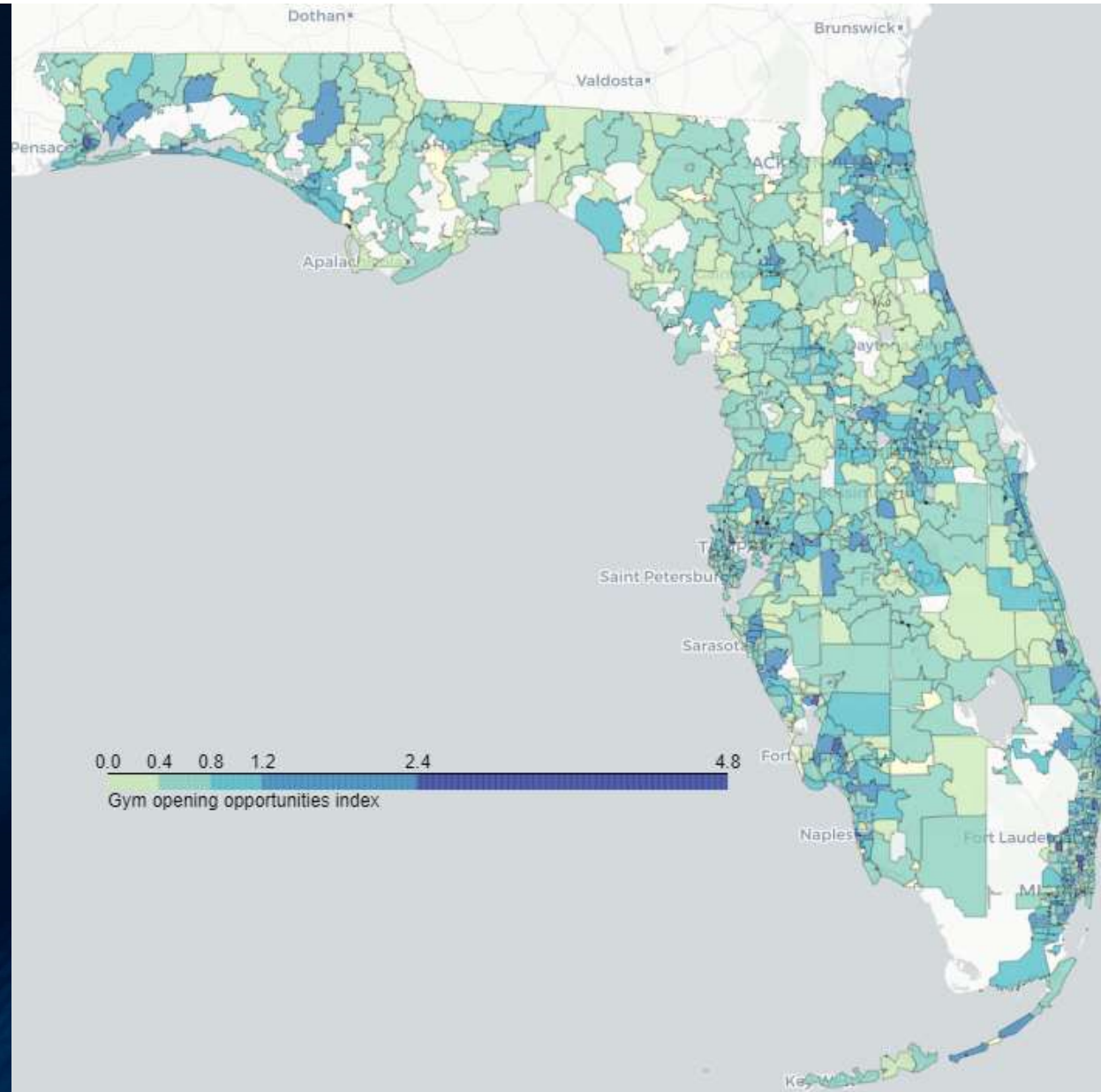
Index: **1,20**

Good place to open the new gym or fitness club



Florida Map

- There are enough places in Florida with a lack of gyms
- The zones of opportunities are distributed throughout the state
- Choosing the place for gym you can numerically evaluate the potential of this area



CONCLUSION

- I collected information about Florida by zip codes
- I created the model that predicts the number of gyms based on the demographics, taxes statistics and other information
- I calculated gym opening potential index by zip codes
- There are enough ideas to improve this research