

WhereSIOUS - San Diego

Where Should I Open Up Shop?

Jeffrey Silverman



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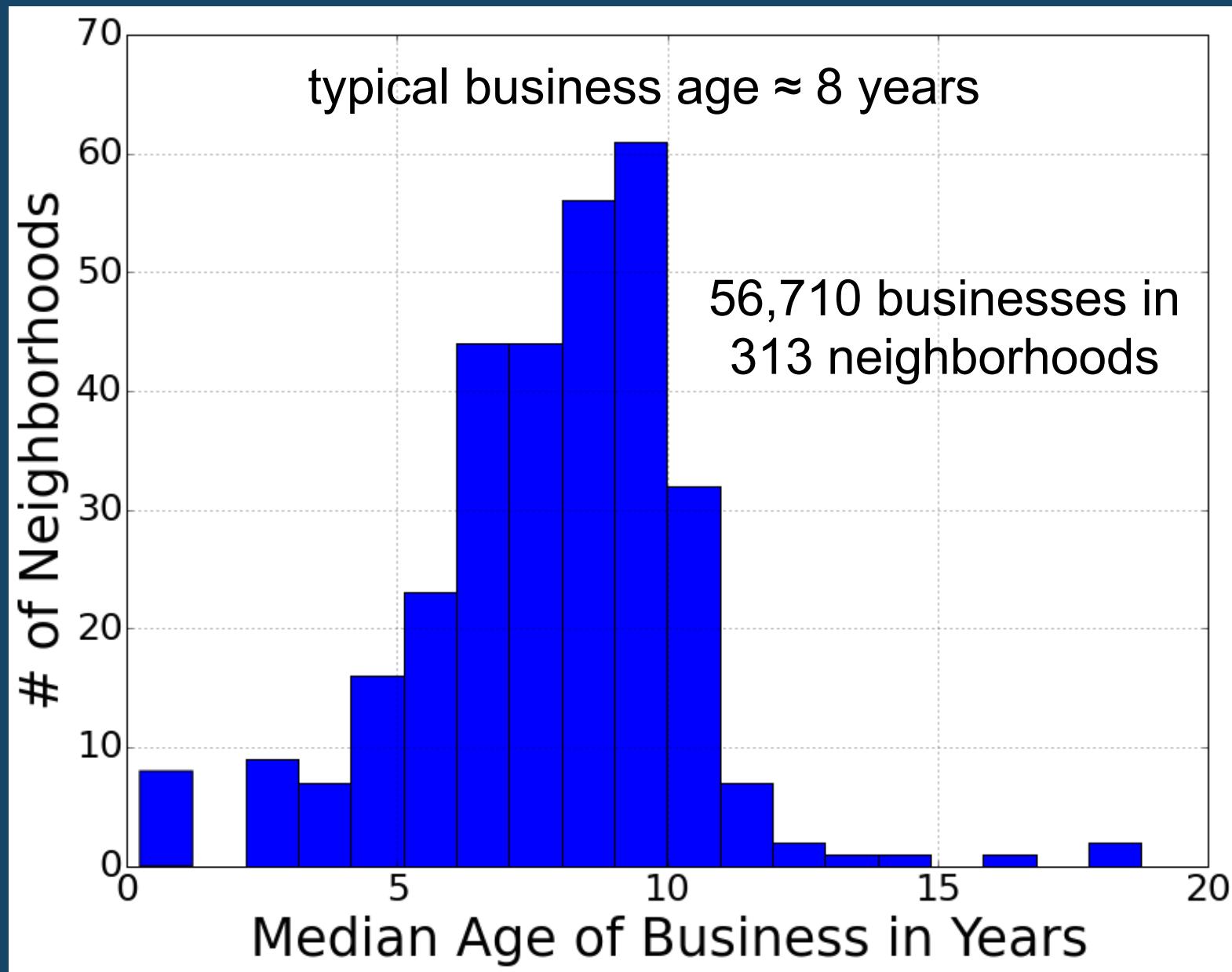
Jeffrey Silverman

Should my new
restaurant go here?

Is this a good place for
my next car dealership?



Longevity == Business Success



From Data to WhereSIOUS Score



describe each neighborhood
& their businesses

From Data to WhereSIOUS Score

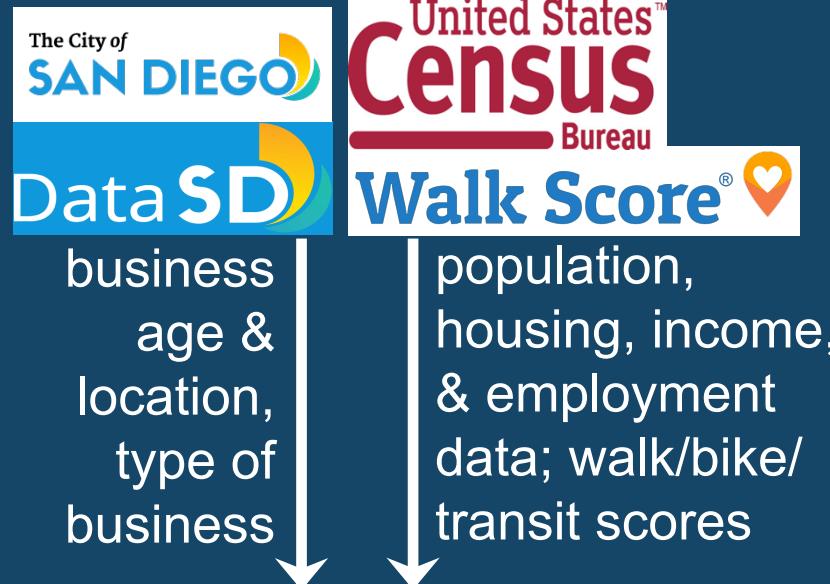


business
age &
location,
type of
business

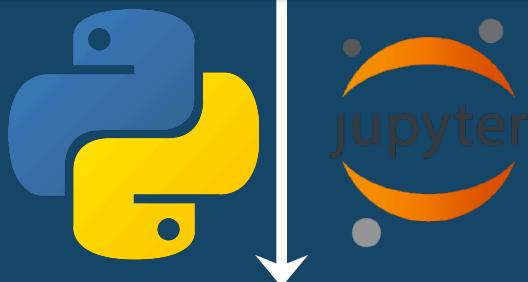
population,
housing, income,
& employment
data; walk/bike/
transit scores

describe each neighborhood
& their businesses

From Data to WhereSIOUS Score

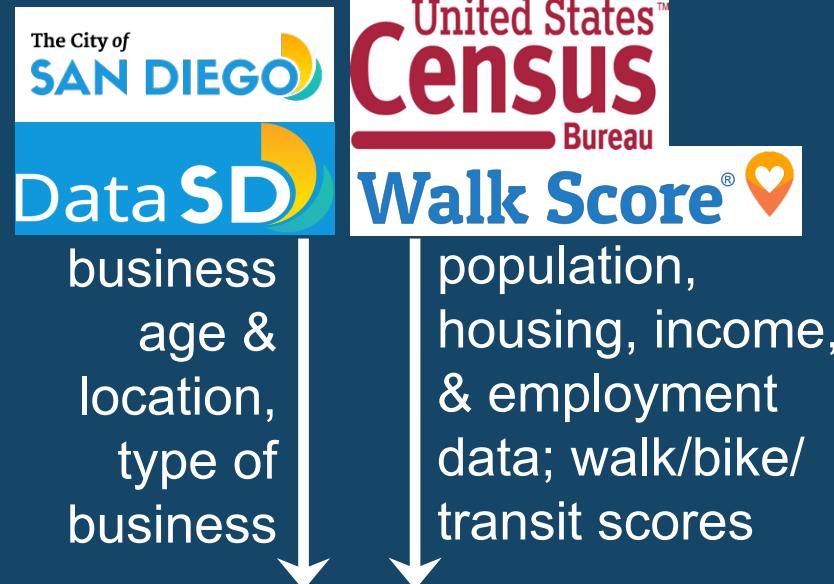


describe each neighborhood
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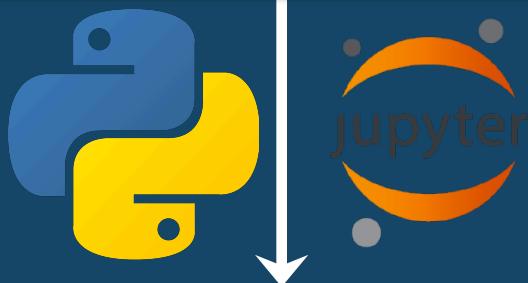


linear regression with input
data & business ages

From Data to WhereSIOUS Score



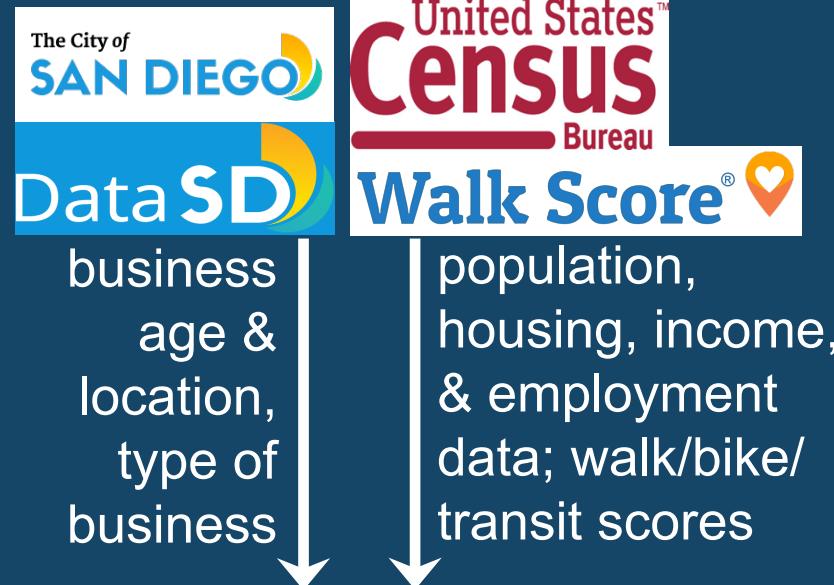
describe each neighborhood
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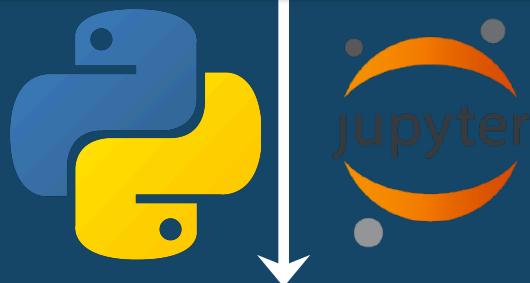
linear regression with input
data & business ages

calculate WhereSIOUS score
(scaled from predicted business
age) for each neighborhood

From Data to WhereSIOUS Score



describe each neighborhood
& their businesses



linear regression with input
data & business ages

user enters a business
type (& optional address)

calculate WhereSIOUS score
(scaled from predicted business
age) for each neighborhood

From Data to WhereSIOUS Score



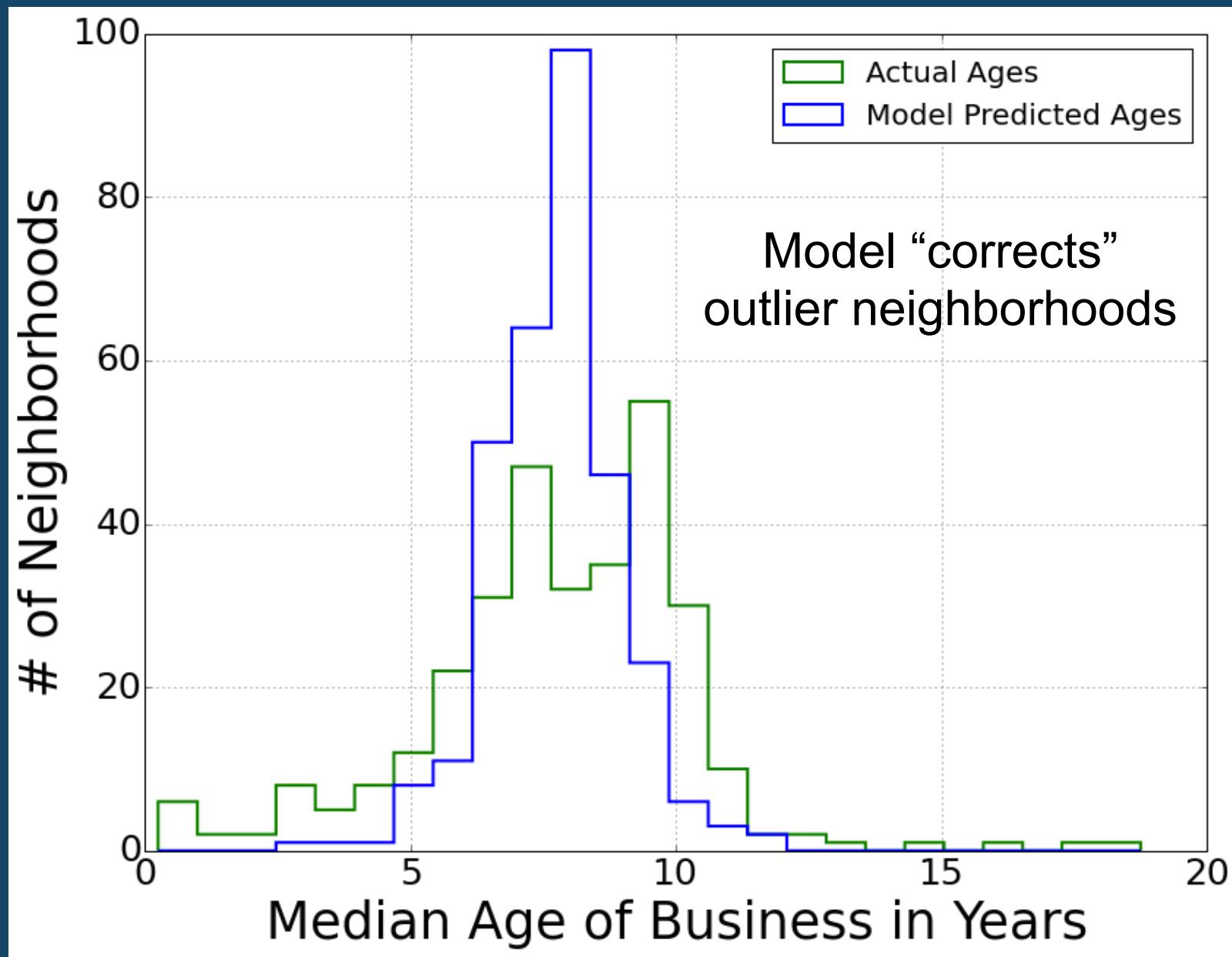
output WhereSIOUS score(s) & Google Map to website!



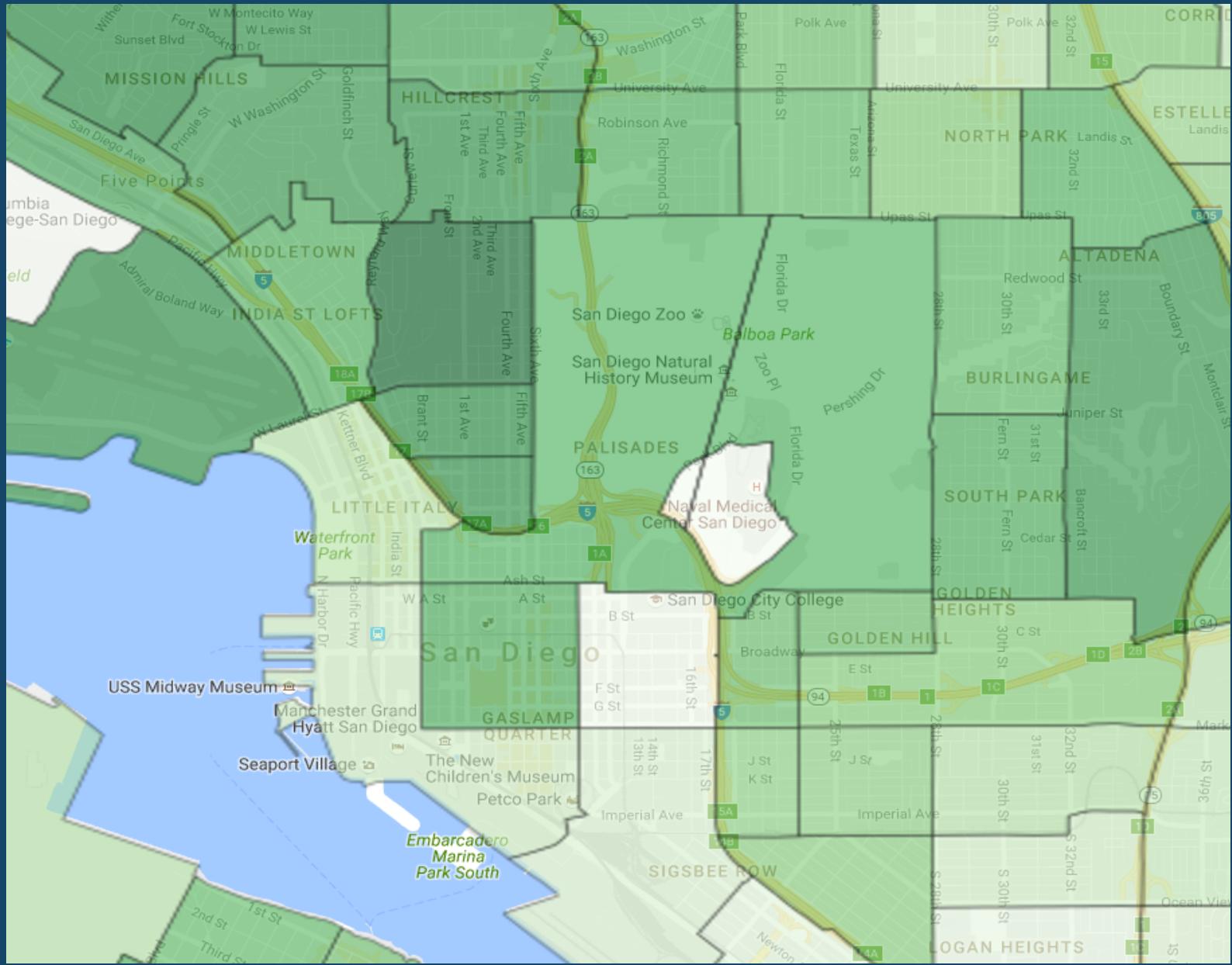
user enters a business type (& optional address)

calculate WhereSIOUS score (scaled from predicted business age) for each neighborhood

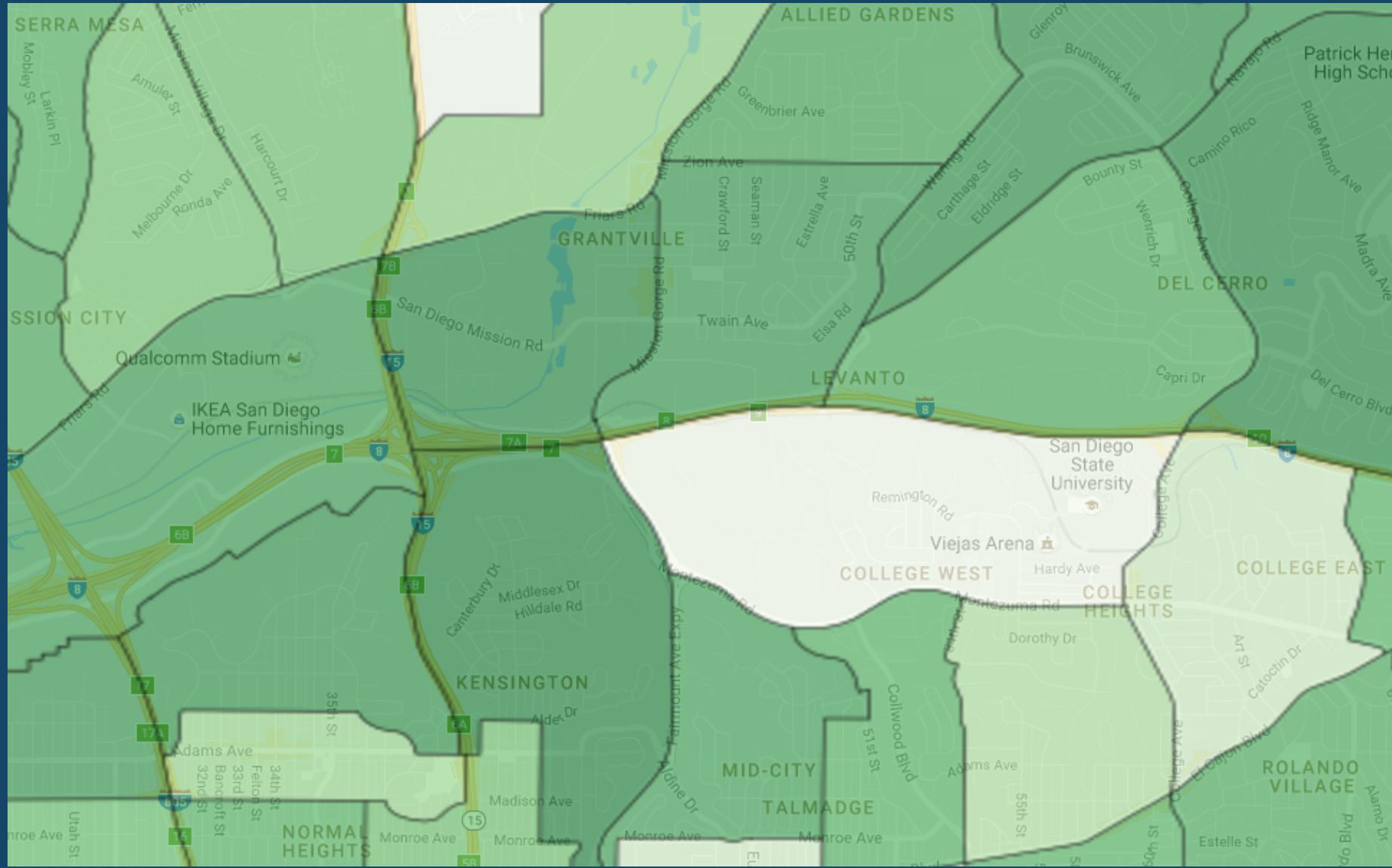
Validation (LOOCV = 0.105; $r^2 = 0.23$)



Downtown San Diego



SD State University & Qualcomm Stadium



Successful Businesses Tend to Have...

- Higher median age
- Higher employment percentage



Successful Businesses Tend to Have...

- Higher median age 
- Higher employment percentage 

...and possibly have...

- Higher percent female population 
- Higher percent adult population 

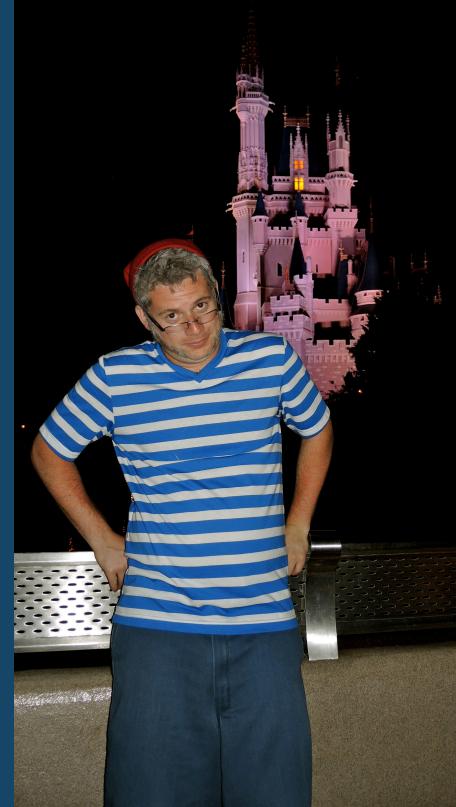
Successful Businesses Tend to Have...

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- Higher employment percentage 

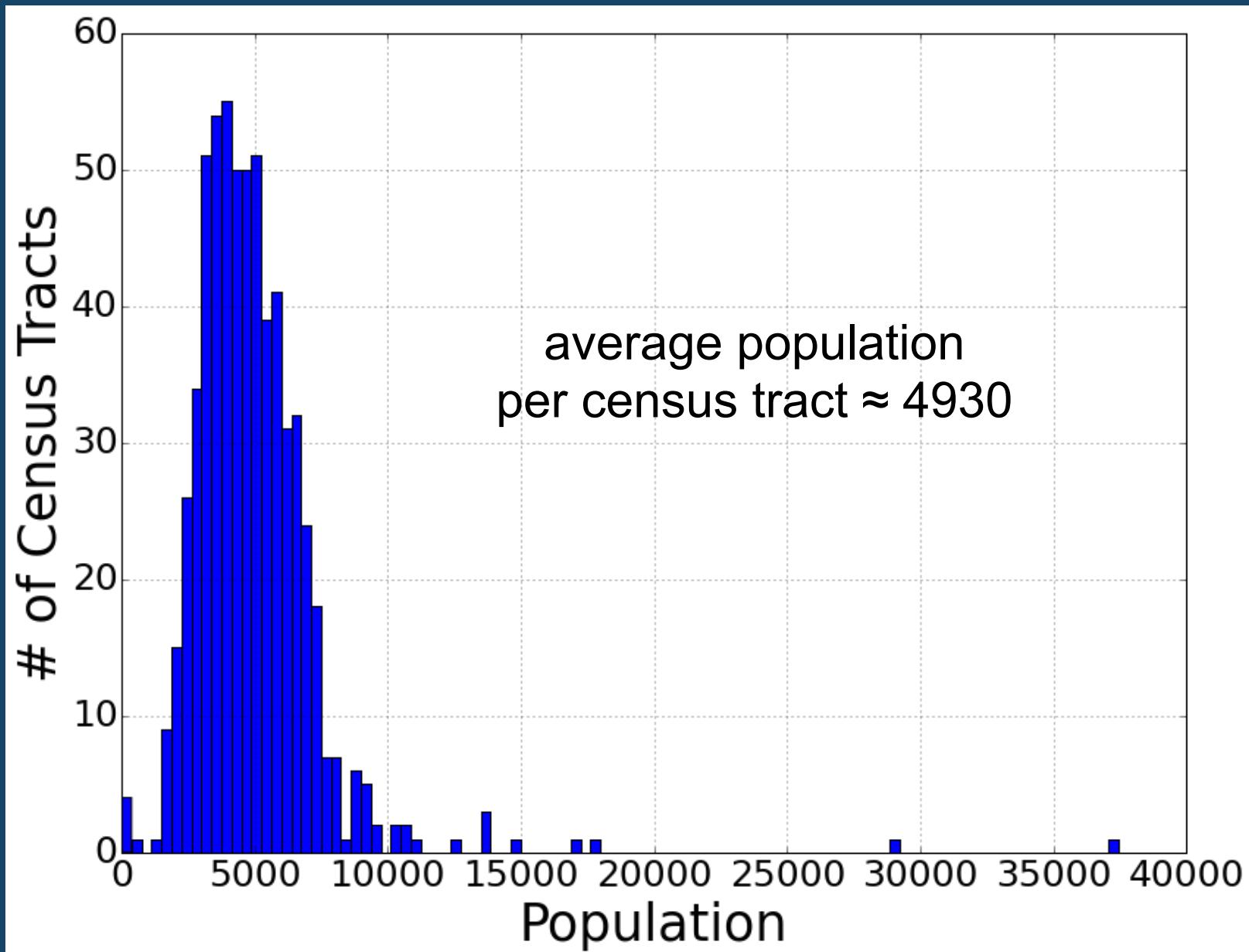
...and possibly have...

- Higher percent female population 
- Higher percent adult population 
- Higher “walk score” 
- Lower “bike score” (?)! 

Jeffrey Silverman



Neighborhoods (i.e., Census Tracts)



Business Info – NAICS (North American Industry Classification System)



	# Stores	NAICS Code	NAICS Description
0	31	722	FOOD SERVICES & DRINKING PLACES
1	27	722213	SNACK & NONALCOHOLIC BEVERAGE BARS
2	6	7224	DRINKING PLACES (ALCOHOLIC BEVERAGES)
3	4	4452	SPECIALTY FOOD STORES
4	3	445299	OTHER MISCELLANEOUS STORE RETAILERS
5	3	4539	ALL OTHER SPECIALTY FOOD STORES
6	2	7223	SPECIAL FOOD SERVICES
7	1	45299	OTHER SPECIALTY FOOD STORES
8	1	44	ALL OTHER GENERAL MERCHANDISE STORES
9	1	7221	GENERAL MERCHANDISE STORES
10	1	7222	FOOD & BEVERAGE STORES
11	1	445	MISCELLANEOUS STORE RETAILERS
12	1	44531	LIMITED-SERVICE EATING PLACES
13	1	452	CAFETERIAS
14	1	453	FULL-SERVICE RESTAURANTS
15	1	5614	RETAIL TRADE
16	1	44529	BEER, WINE & LIQUOR STORES
17	1	722212	BUSINESS SUPPORT SERVICES

Business Info – NAICS (North American Industry Classification System)



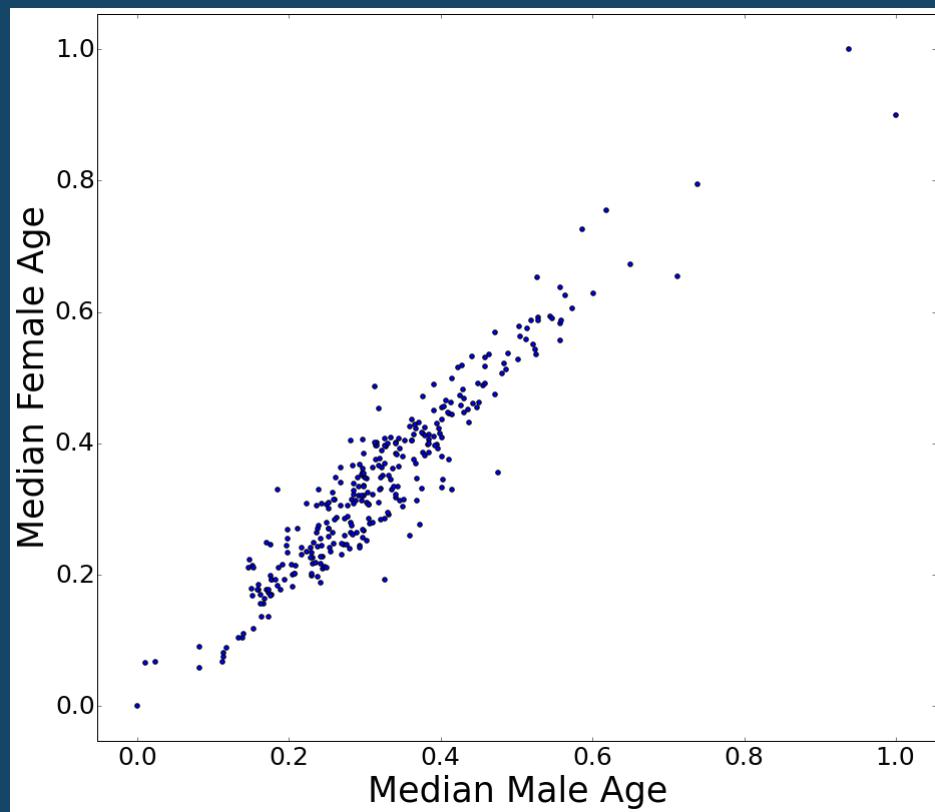
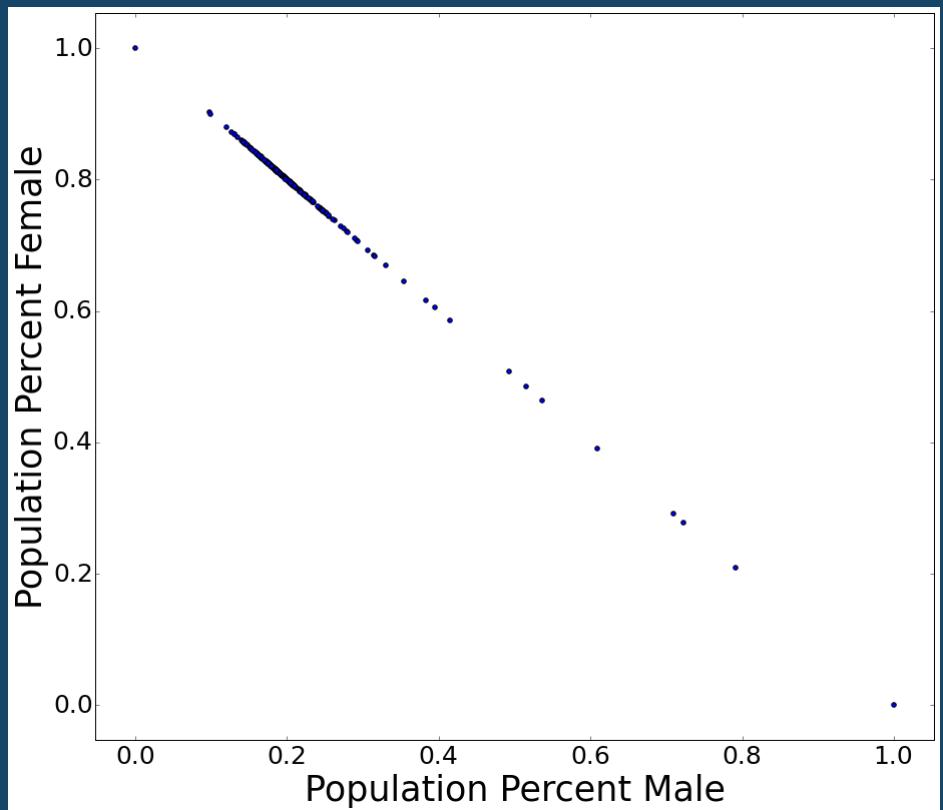
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7	1	45299	OTHER SPECIALTY FOOD STORES
8	1	4451	NONSTORE GENERAL MERCHANDISE STORES
9	1	7221	GENERAL MERCHANDISE STORES
10	1	7220	FOOD & BEVERAGE STORES
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4 “simple” codes

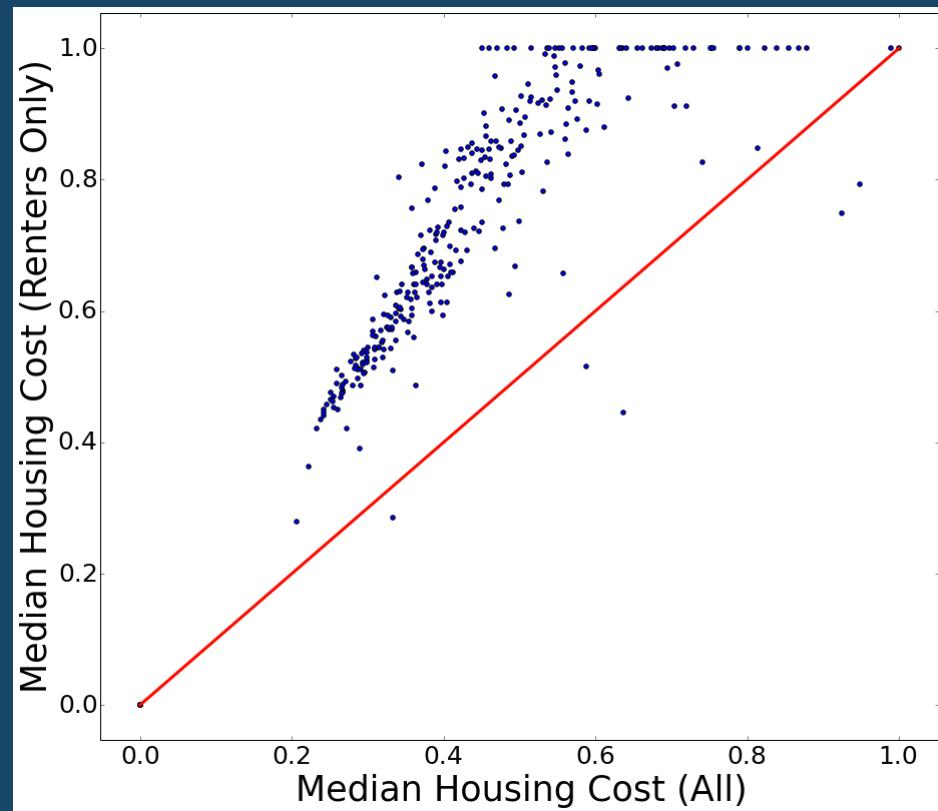
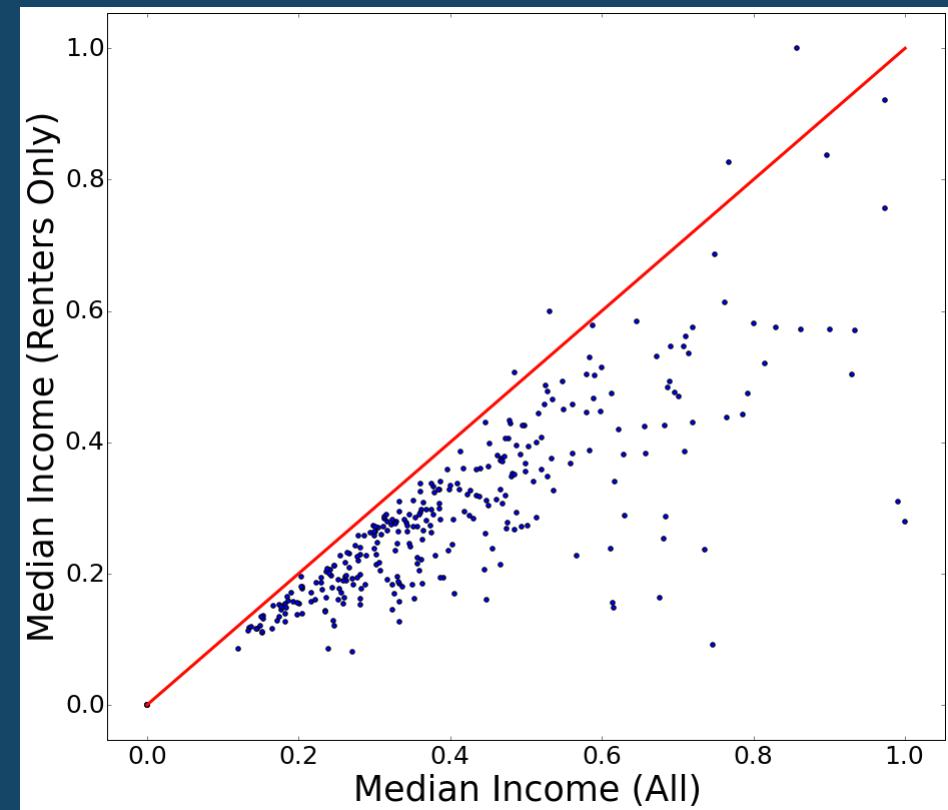
79% are Code 72

13% are Code 44

Fun With Census Data!



Fun With Census Data!



Features Used (41)

- Total # of businesses
- Total # of businesses of each type
- Total population
- Percent female population (1.5σ)
- Percent adult population (1.3σ)
- **Median age (3.5σ)**
- Total # of homes
- **Employment percentage (1.5σ)**
- Median income
- Median income for homeowners
- Median income for renters
- Median housing cost
- Median housing cost for homeowners
- Median housing cost for renters
- Walk score (1σ)
- Transit score
- Bike score (1.5σ)
- Total annual amount spent in parking meters