# CRAIGSLIST HOUSING
## North and South Bay Rentals

# CRAIGSLIST HOUSING

» Rental marketplace for variety of needs

» Focus on **apts/housing** category

» What should you price your housing unit?

**housing**

apts / housing
housing swap
housing wanted
office / commercial
parking / storage
real estate for sale
rooms / shared
rooms wanted
sublets / temporary
vacation rentals

# THE DATA

☆ **$3546 / 1br - 1002ft² - LAST 1br 1.5 Bath Apartment on the Market! Dont Miss Out. Call Now!**
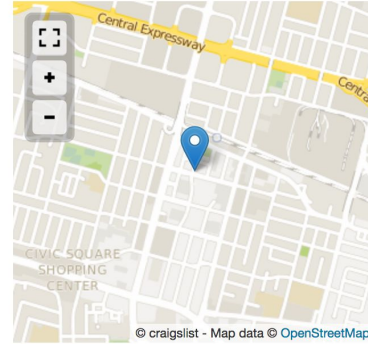
(sunnyvale) ⊠

image 1 of 6



© craigslist · Map data © OpenStreetMap

299 W Washington Ave.

([google map](#))

| 1BR / 1Ba | 1002ft² | available now |

cats are OK - purrr

dogs are OK - wooof

apartment

w/d in unit

no smoking

attached garage

wheelchair accessible

**Solstice Apartment Homes**
**www.LiveSolstice.com**
show contact info
**299 W Washington Ave. Sunnyvale, CA 94086**

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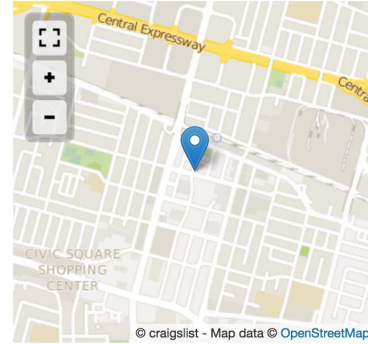
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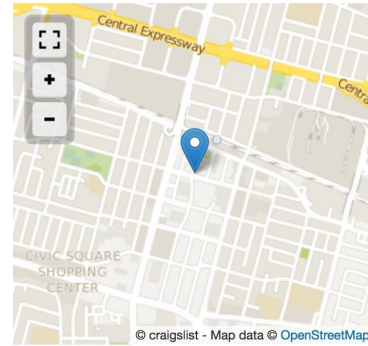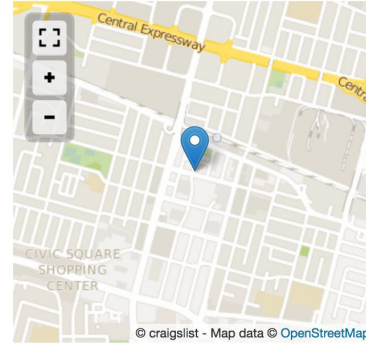
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# THE FEATURES

» **Bedrooms** (num)
» **Bathrooms** (num)
» **SqFt** (num)
» **Type** (categorical)
  » Apt., House, etc.
» **Cats allowed** (bool)
» **Dogs allowed** (bool)

» **Furnished** (bool)
» **No Smoking** (bool)
» **Wheelchair Accessible** (bool)
» **Images in Post** (num)
» **Words in Post** (num)
» **Region** (bool)
  » 0 - South Bay
  » 1 - North Bay

# THE FEATURES

» **Laundry** (categorical)
  » No laundry (1)
  » Laundry on-site (2)
  » Laundry in building (4)
  » w/d in unit (5)

» **Parking** (categorical)
  » No Parking (1)
  » Street Parking (3)
  » Carport (4)
  » Attached Garage (6)

# FEATURE SELECTION

Applied **Lasso** with **α = 2**, determined by **GridSearchCV**

| | |
|---|---|
| Bedrooms | No Smoking |
| Bathrooms | Wheelchair Accessible |
| Sqft | Images in Post |
| Type | Words in Post |
| Cats | Parking Availability |
| Dogs | Laundry Availability |
| Furnished | Region |

# FEATURE SELECTION

Applied **Lasso** with **α = 2**, determined by **GridSearchCV**

Bedrooms        ~~No Smoking~~
~~Bathrooms~~      ~~Wheelchair Accessible~~
Sqft            ~~Images in Post~~
Type            Words in Post
~~Cats~~          ~~Parking Availability~~
Dogs            Laundry Availability
Furnished       Region

# RESULTS

Model Residual Plot

Probability Plot
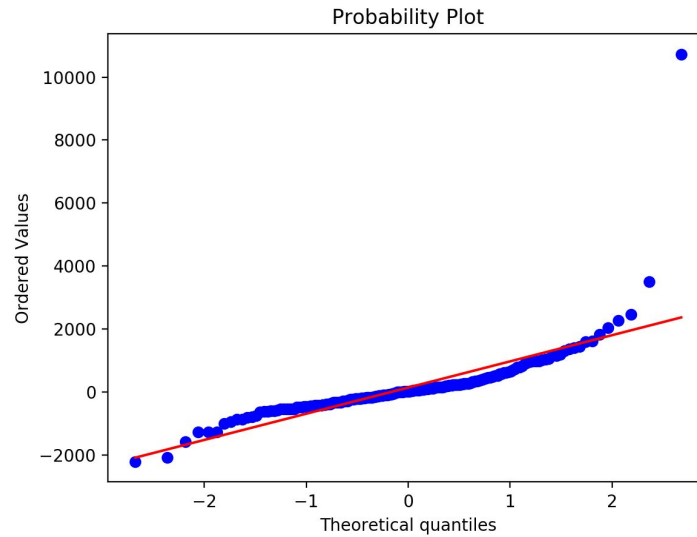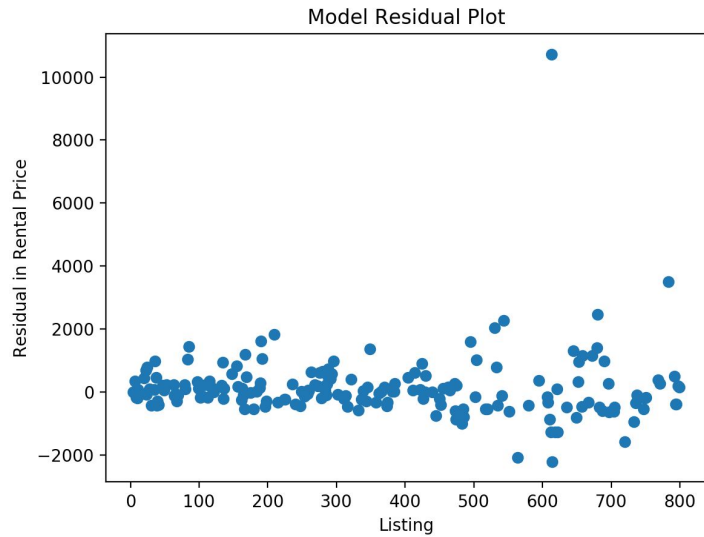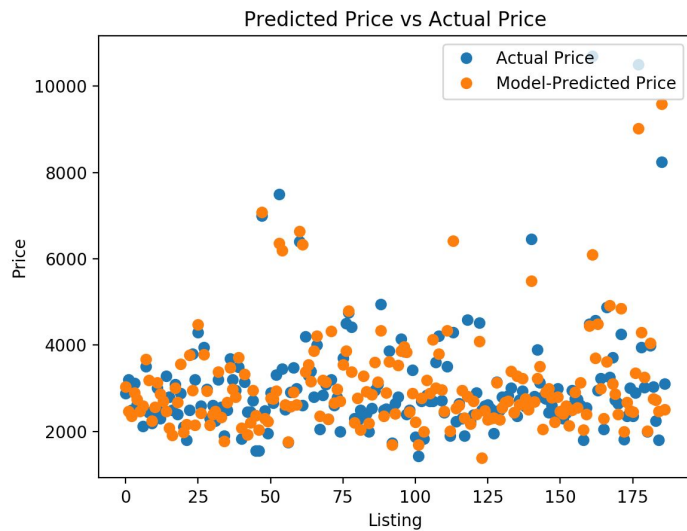
# RESULTS
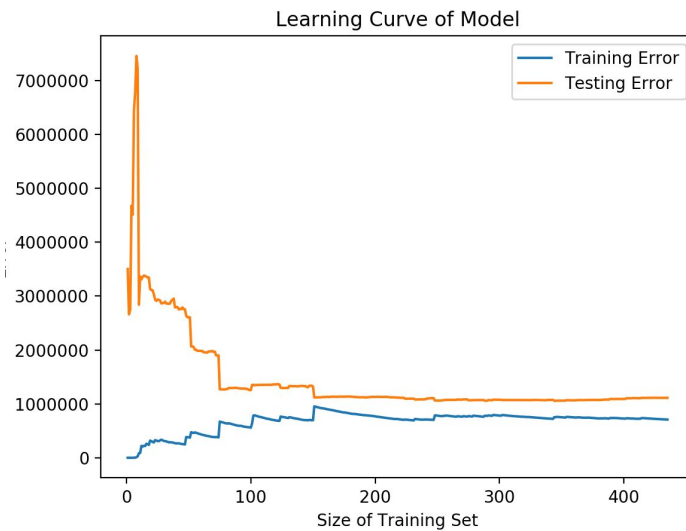
# OUTLIERS

☆ **$19500 / 4br - 4323ft² - 4 Bedrooms Plus Bonus Room, 3 Full & 2.5 Bath Southern Mansion in Napa (napa county)** ⊠

☆ **$14000 / 5br - 4000ft² - AMAZING VIEWS! Sophisticated and Private Mill Valley Hilltop Oasis! (mill valley)** ⊠

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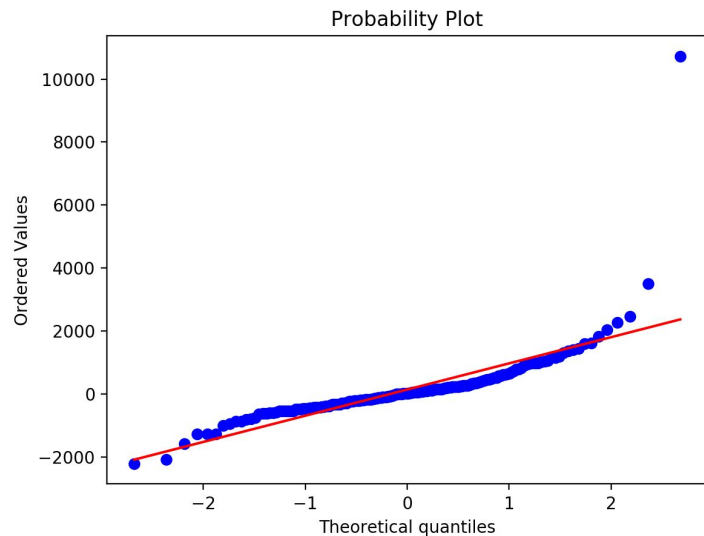
☆ **$14000 / 5br - 4000ft$^2$ - AMAZING VIEWS! Sophisticated and Private Mill Valley Hilltop Oasis! (mill valley)** ⊠

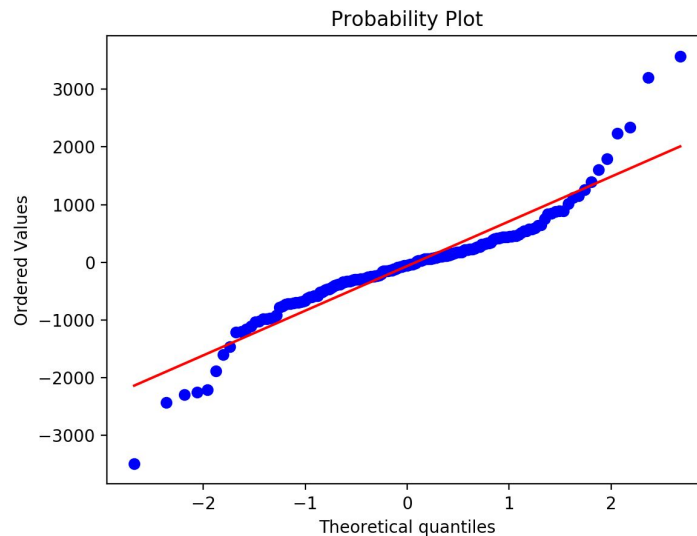| title | hood | price | bed | bath | sqft | type |
|---|---|---|---|---|---|---|
| LEX Has Everything You Need, Join Us Today--Open House This Weekend! | (san jose south) | 29903165 | 2 | 2 | | apartment |

Average Price with LEX: 40061

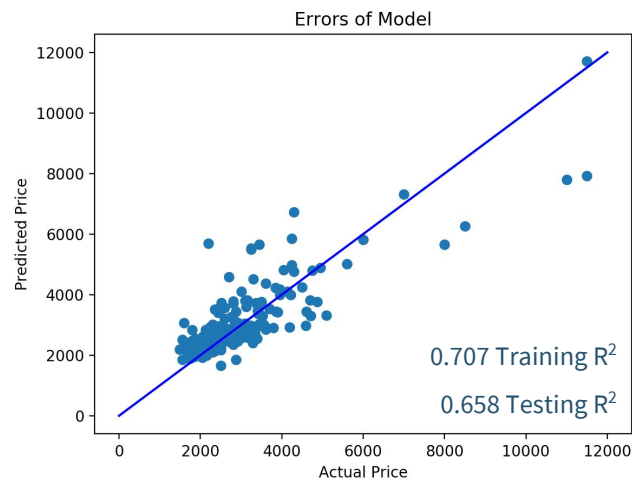Average Price without LEX: 2918

# "PLAY IT AGAIN, SAM"



Before

After

# "PLAY IT AGAIN, SAM"

Errors of Model (Before)

0.712 Training $R^2$

0.553 Testing $R^2$

Errors of Model (After)

0.707 Training $R^2$

0.658 Testing $R^2$

Before

After

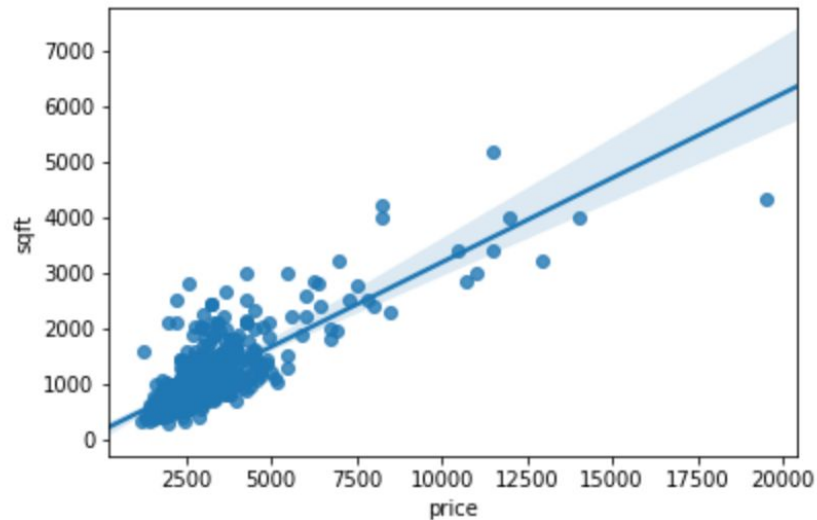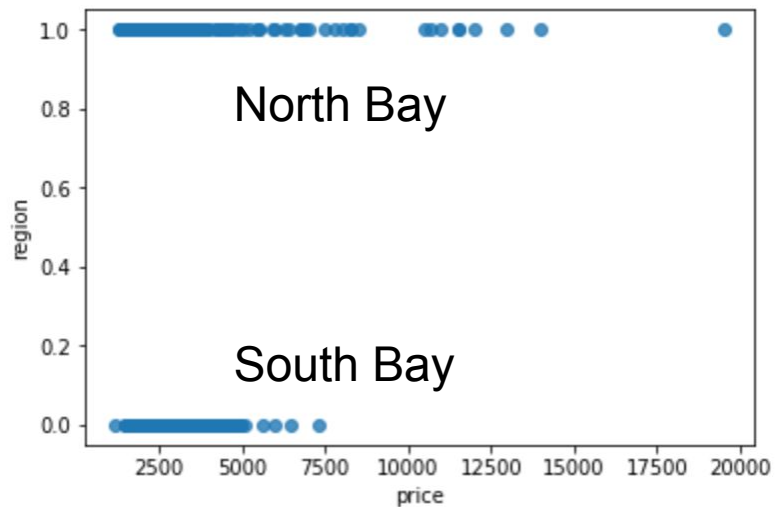# FUTURE EXTENSIONS

» Greater geographic granularity; neighborhoods
  » Additional geographic locations

» Were units actually rented?

# APPENDIX

Supporting Slides

# LASSO-SELECTED FEATURES

# REGRESSION COEFFICIENTS

(-253.984, 'bed')

(2.455, 'sqft')

(177.945, 'dogs')

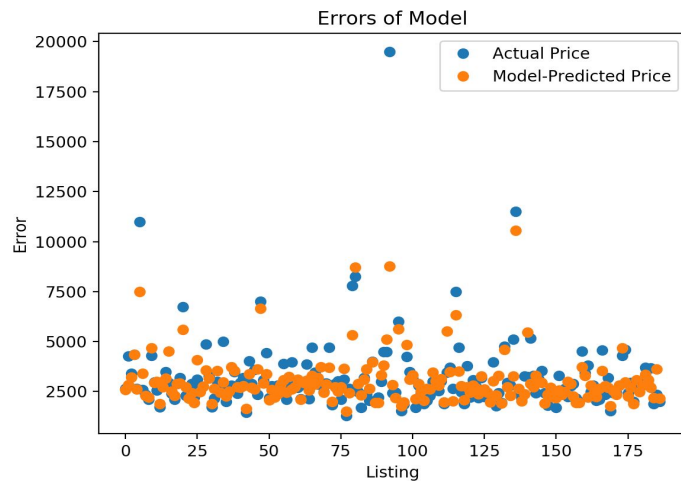(974.015, 'furnished')

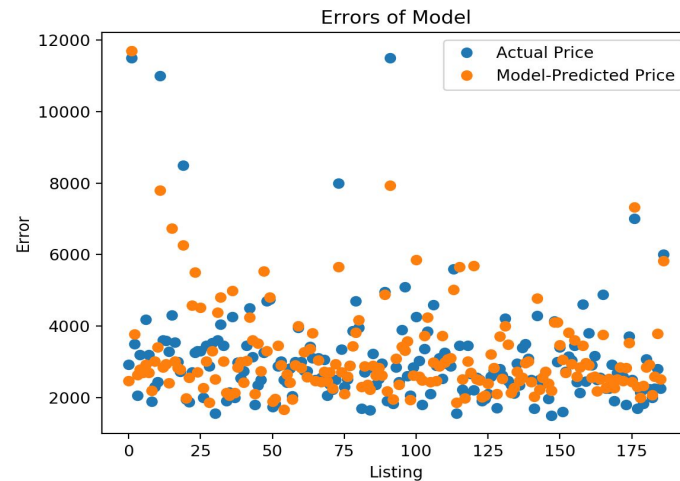(0.243 'words')

(20.596, 'laundry')

(-252.628, 'region')

(-172.700, 'type.house')

(-124.118, 'type.townhouse')

# PREDICTED VS ACTUAL



Before

After