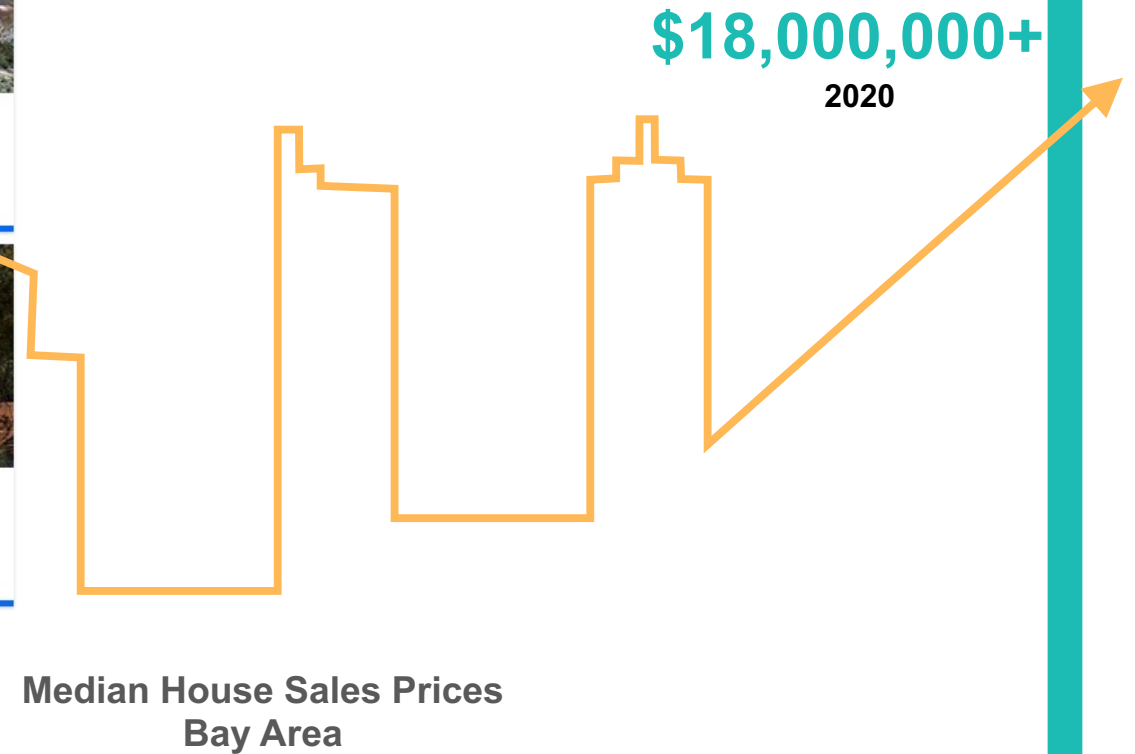
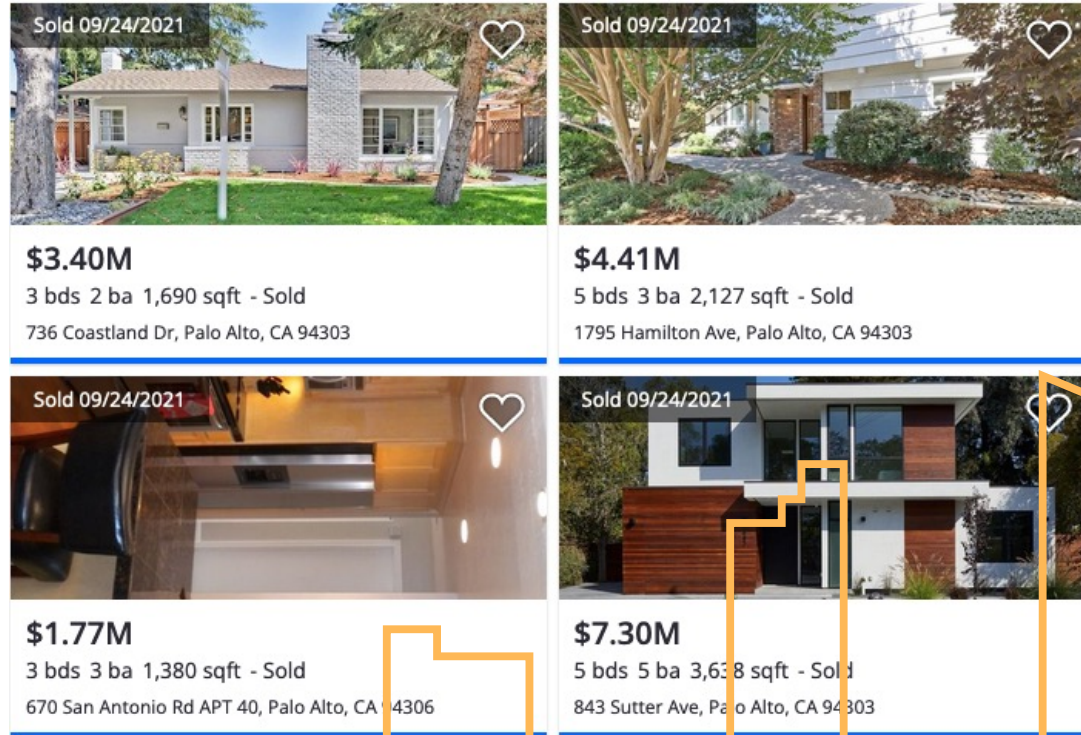




# House Price Prediction

- Bay Area -

# Motivation



# Primary Data Source



## Bay Area House Data



- Alameda County
- Santa Clara County



**Median Household  
Income in California**

## 3900+ entries of Data 35 features

|               |                     |
|---------------|---------------------|
| City          | LotType             |
| Zipcode       | ParcelNum           |
| SoldPrice     | Zoning              |
| Sold Date     | SpecialCondition    |
| HomeType      | Materials           |
| Bedrooms      | Roof                |
| Bathrooms     | YearBuilt           |
| FullBath      | SewerInfo           |
| HalfBath      | WaterInfo           |
| Flooring      | UtilitiesType       |
| Heating       | Region              |
| Cooling       | RoomKitchenFeatures |
| Laundry       | ListPriceLow        |
| HomeSize      | min_school_dist     |
| ParkingLotNum | avg_school_dist     |
| ParkingType   | FoundationDetails   |
| ExtType       | ParkingFeatures     |
| LotSize       |                     |

# Modeling Framework



# Predict the House value based on the pre-house sale prices

## Key Features

- **Home Type**
- **Bedroom**
- **Bathrooms**
- **Home Size**
- **Parking Lot Num**
- **House Age**
- **House Hold Avg Income**
- **City**



# Modeling Framework

## REMOVE EXTREME VALUES



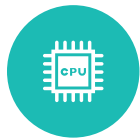
**Sold Price**

- > 5K
- < 6M



**BEDROOM NUM**

- =0



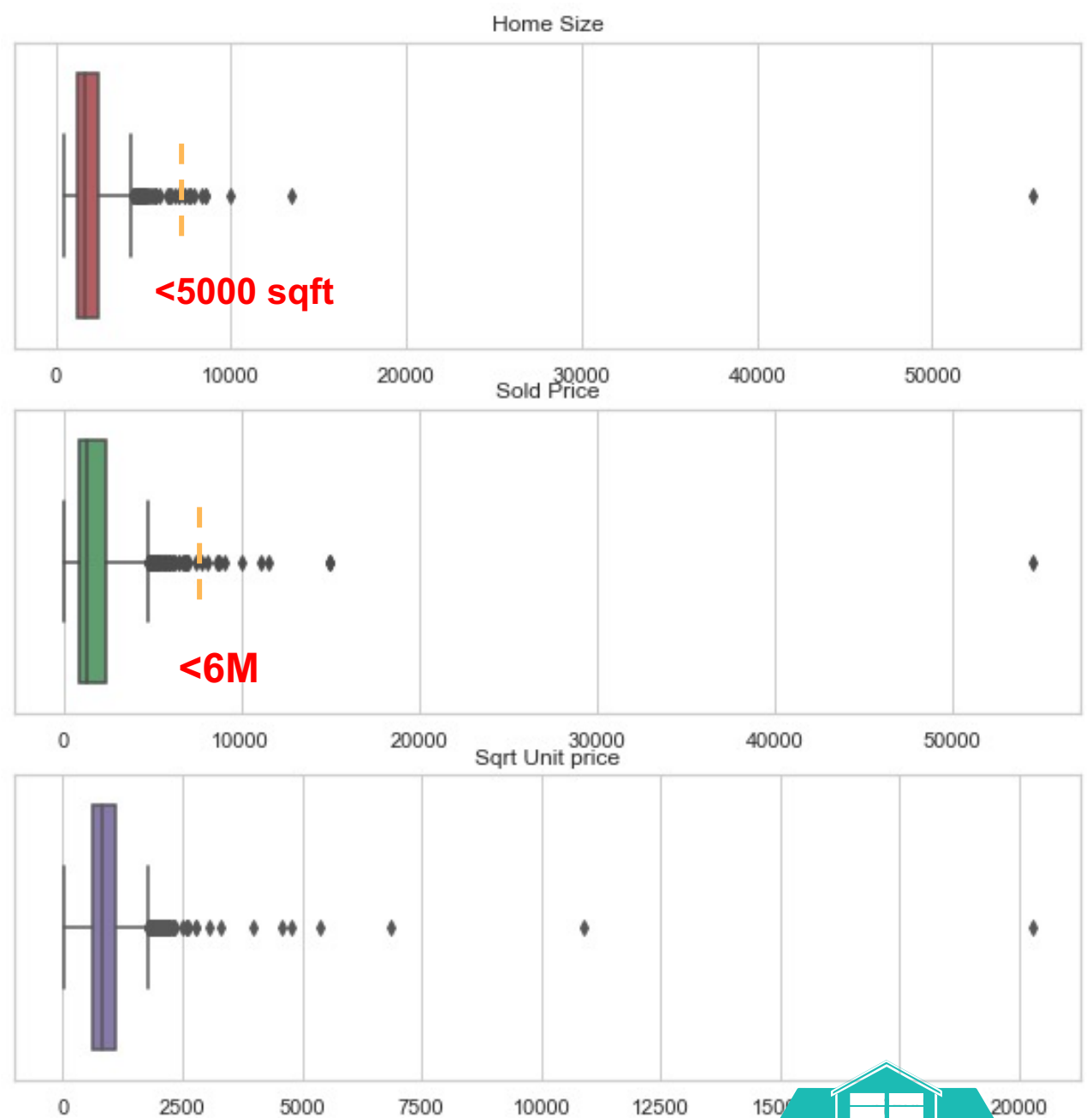
**YEAR BUILT**

- =0



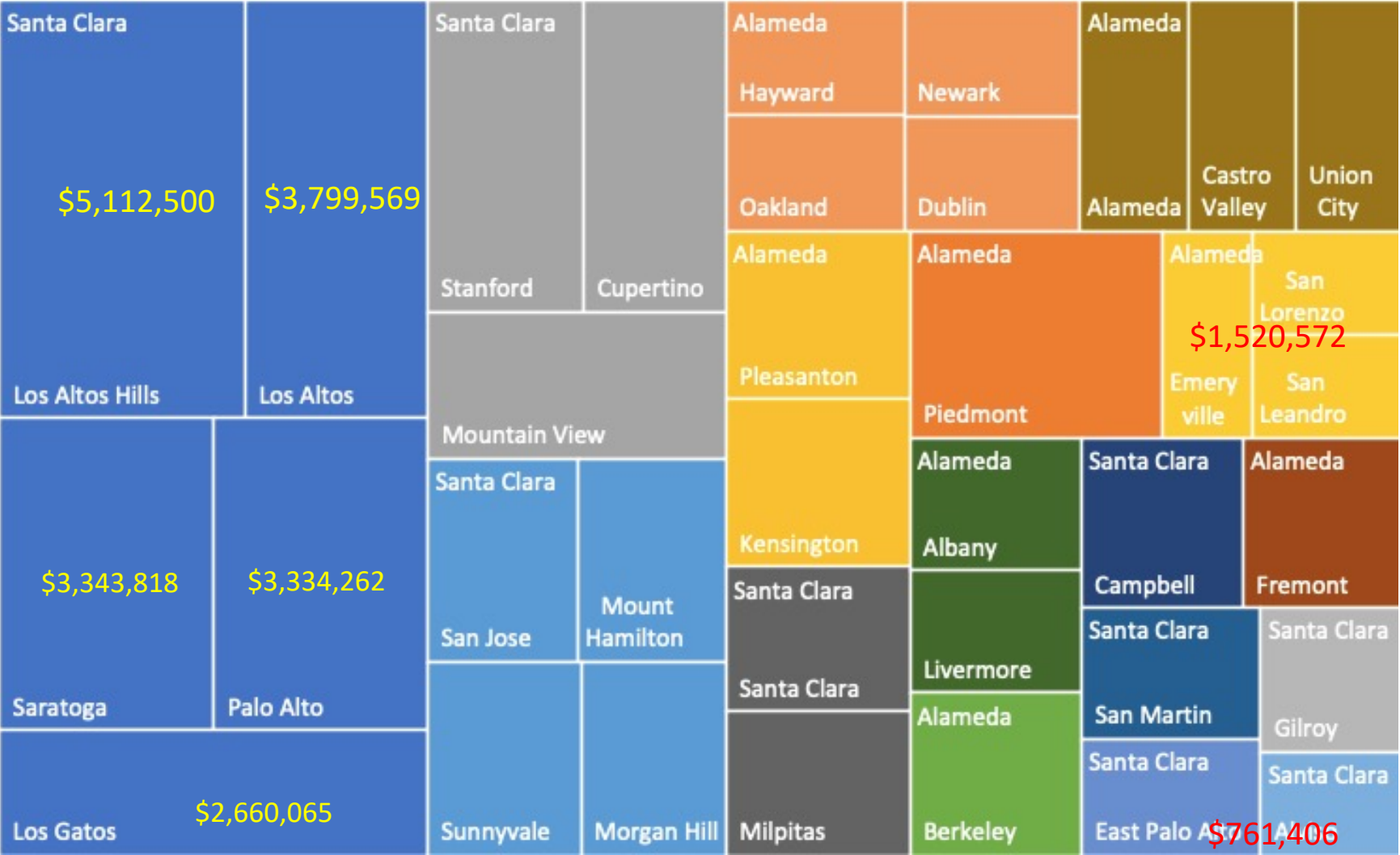
**Home Size**

- <5000

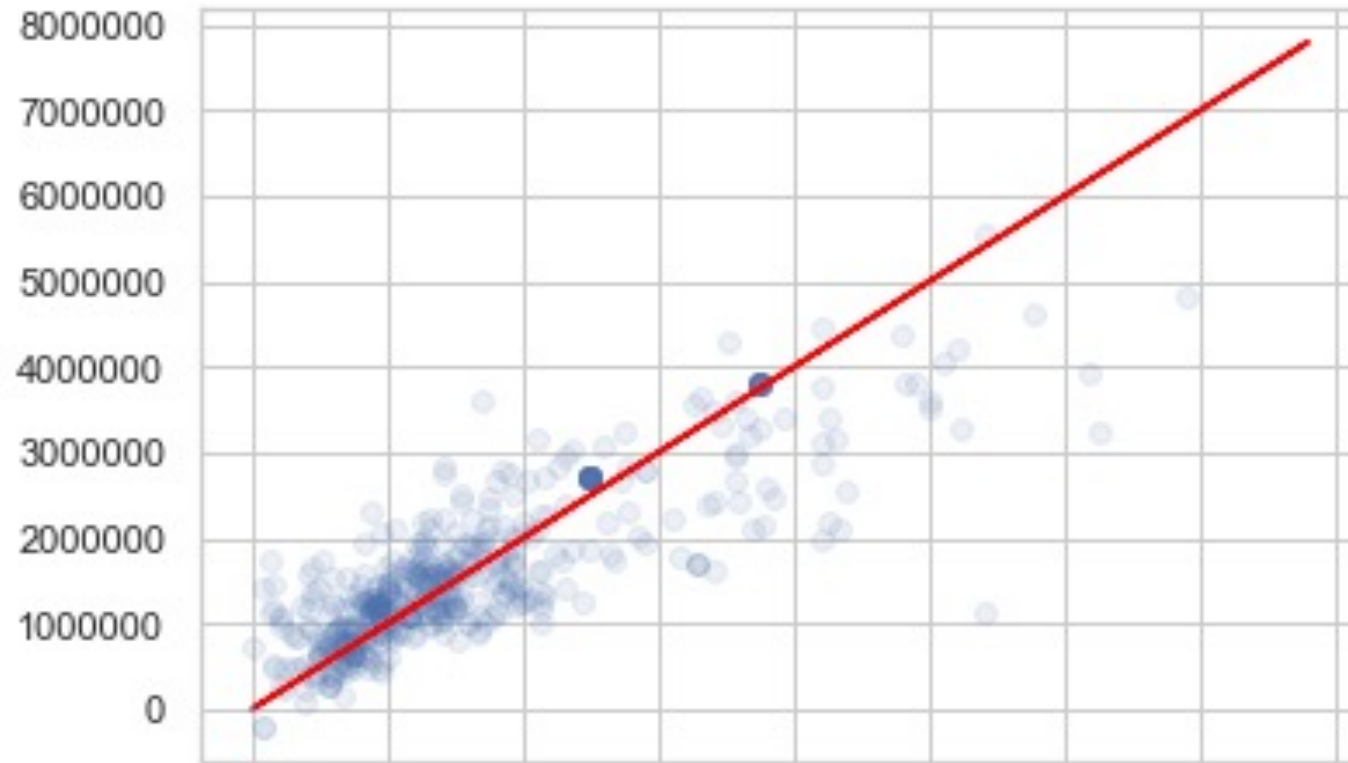


Key Feature

Average Sale Price by City



# Result

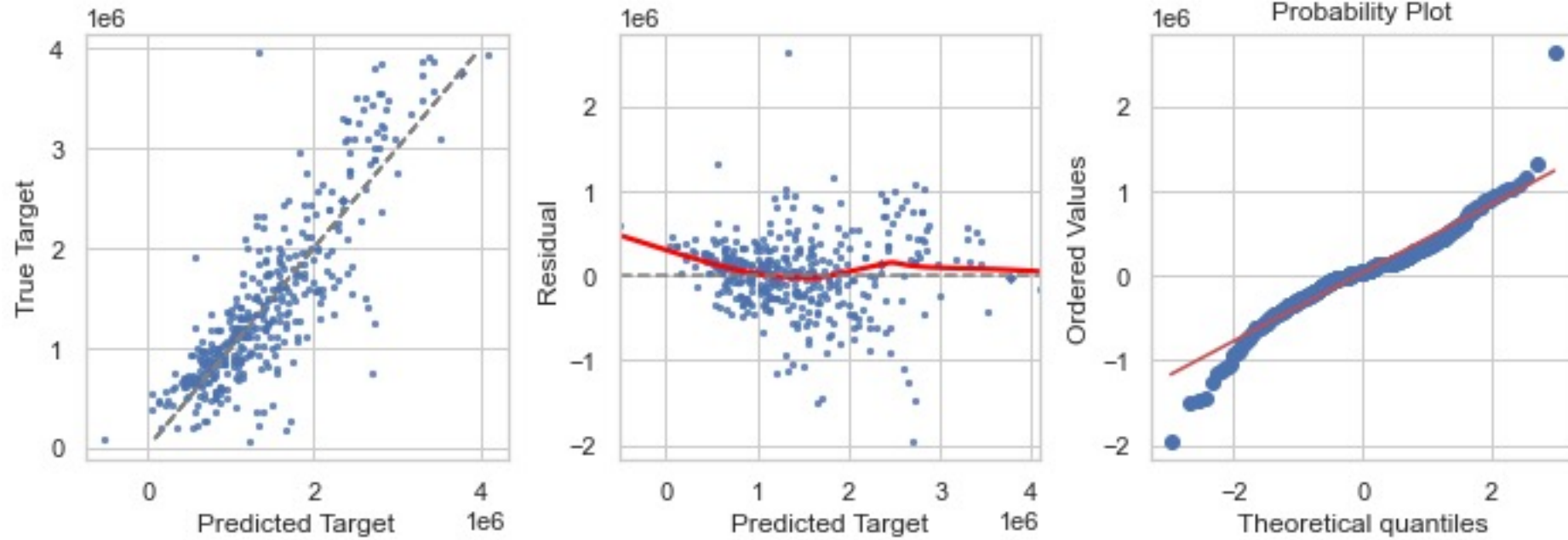


$R^2$ : 0.81

MAE: 1000+

# Result cnt.

Diagnostic Plots







Zillow

Save Share More

**\$1,650,000** 4 bd | 3 ba | 2,082 sqft

41946 Via San Carlos, Fremont, CA 94539

● For sale | Zestimate®: **\$1,855,100**

Est. payment: \$7,214/mo **\$** Get pre-qualified

Contact Agent

Take a Tour

Overview Facts and features Home value Price and tax hist >

## Estimated market value

Zestimate®

**\$1,855,100**

Estimated sales range: **\$1.67M - \$2.04M**

**Predict Price: \$1,705, 473**

# Future Work



Improve the model performance



Access Alternative Features



Separate the Analysis by County

## Price Mean

- Alameda County: 1.15M
- Santa Clara County: 2.15M

