





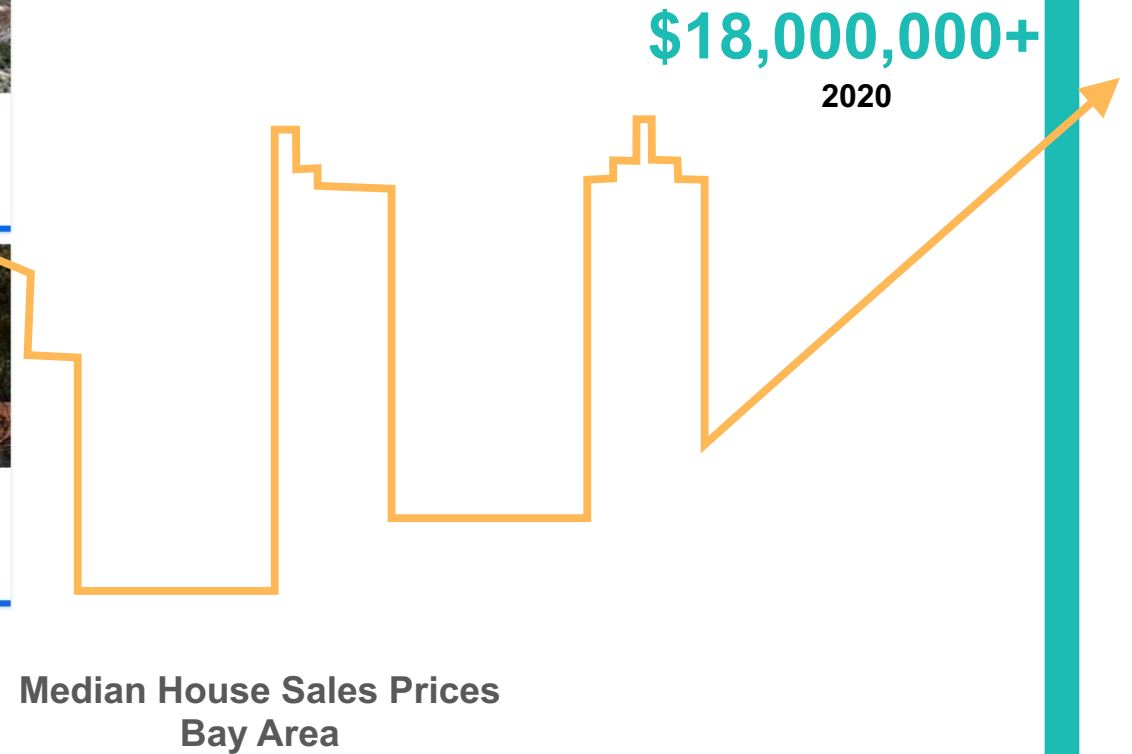


House Price Prediction

- Bay Area -

Motivation

<p>Sold 09/24/2021</p>  <p>\$3.40M 3 bds 2 ba 1,690 sqft - Sold 736 Coastland Dr, Palo Alto, CA 94303</p>	<p>Sold 09/24/2021</p>  <p>\$4.41M 5 bds 3 ba 2,127 sqft - Sold 1795 Hamilton Ave, Palo Alto, CA 94303</p>
<p>Sold 09/24/2021</p>  <p>\$1.77M 3 bds 3 ba 1,380 sqft - Sold 670 San Antonio Rd APT 40, Palo Alto, CA 94306</p>	<p>Sold 09/24/2021</p>  <p>\$7.30M 5 bds 5 ba 3,638 sqft - Sold 843 Sutter Ave, Palo Alto, CA 94303</p>



\$12,000,000

2017

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



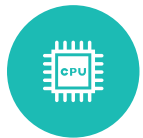
Sold Price

- > 5K
- < 6M



BEDROOM NUM

- =0



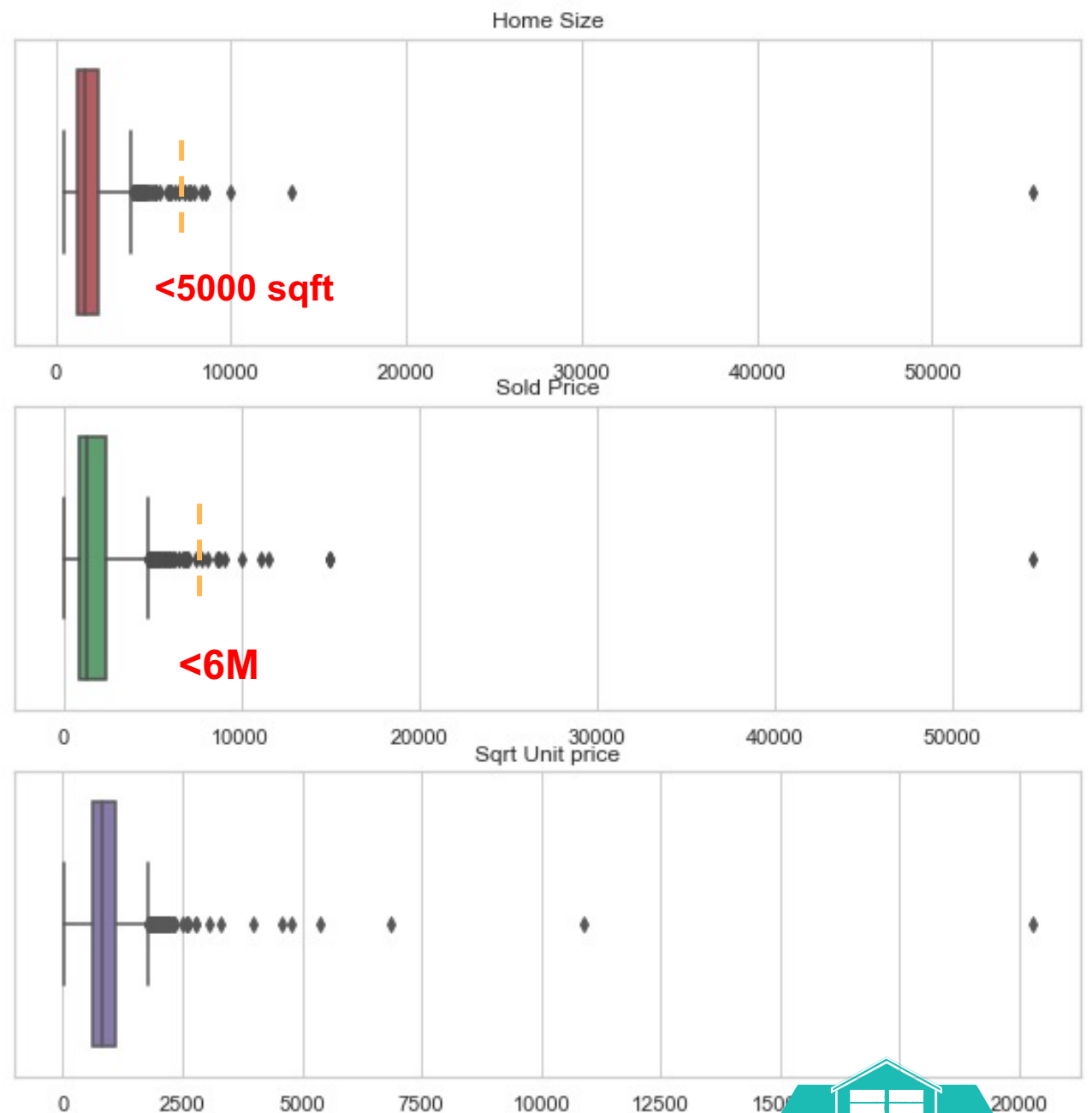
YEAR BUILT

- =0



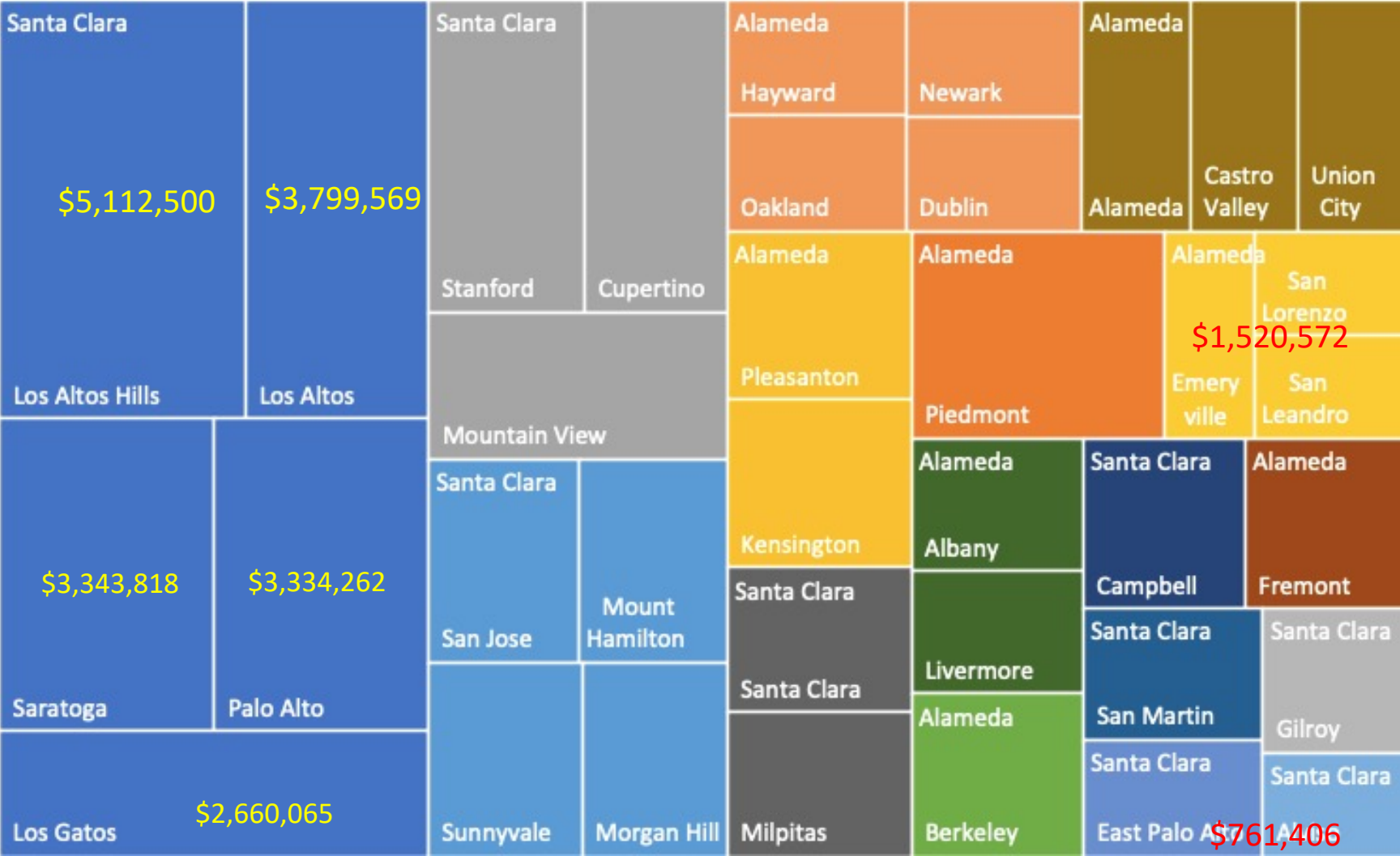
Home Size

- <5000

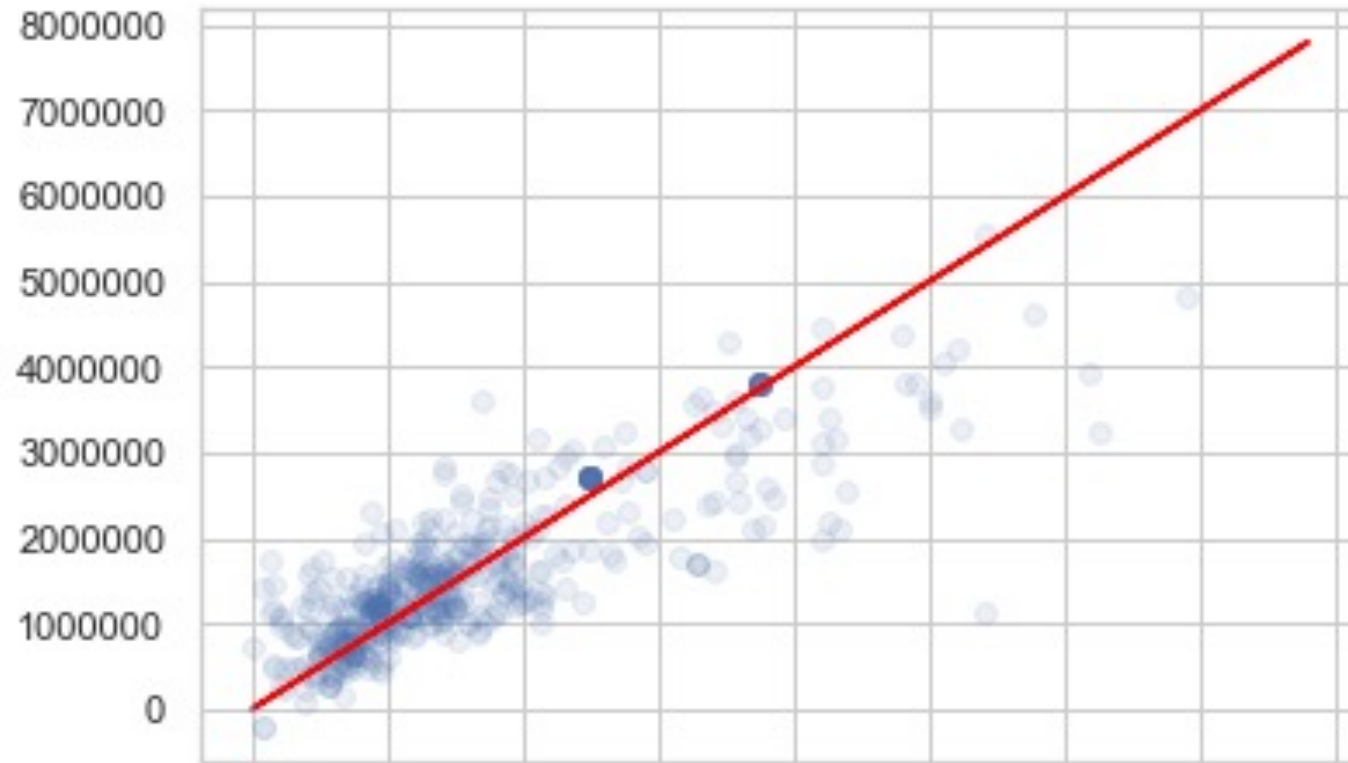


Key Feature

Average Sale Price by City



Result

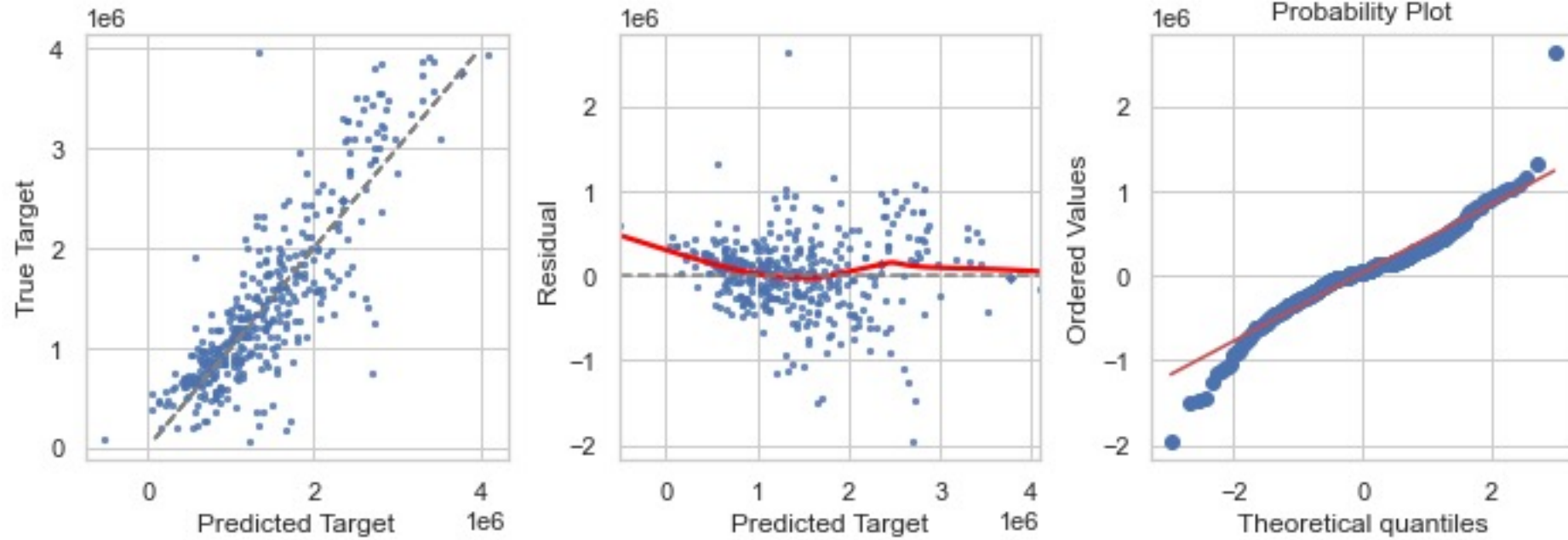


R^2 : 0.81

MAE: 1000+

Result cnt.

Diagnostic Plots



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

