

# Home Value Prediction

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- Visual
- Prediction
- Driven by Zillow



# Motivation

**6,122,000 homes sold in 2017**

**51% buyers found the home through Internet**

**01**

## Overview

Zillow only allows search for single houses. This application avoids the tedious process by providing a high level overview of the real estate market.

**02**

## Personalized

User can choose time to buy and type of house.

**03**

## Prediction

Very few real estate agent provide future prediction of home value. This prediction is supported by robust time series model.

“Quick Real Estate Statistics.” [www.nar.realtor](http://www.nar.realtor), 6 Mar. 2018, www.nar.realtor/research-and-statistics/quick-real-estate-statistics.





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Web App Demo

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**<http://homevalue.us-east-1.elasticbeanstalk.com/index>**

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# Data

## Zillow Research Data

<https://www.zillow.com/research/data/>



# Model



## RDS

Pull data from database  
with input zip code



## Trend

Decompose Trend by 12-month moving average



## Seasonality

Decompose 12-month period seasonality and leave only random noise



## Adjustment

Predict the random noise with differences between means of different home types



## Prediction

Predict a 95% confidence interval for the user input location, time, and type





# Insights

01

Most Regions experienced 10% drop at the beginning of 2012

02

Amagansett, NY 11930 and Los Angeles, CA 90049 increased the fastest in the past five years

03

Greenwich, CT 6831 most unstable in short term



# Thank you

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