

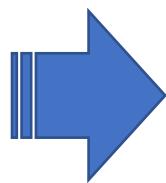
A white sailboat with its sails up, sailing on a body of water under a cloudy sky.

Metis Project 2: Scraping & Regression

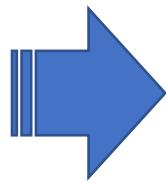
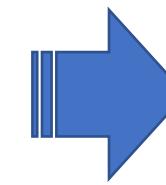
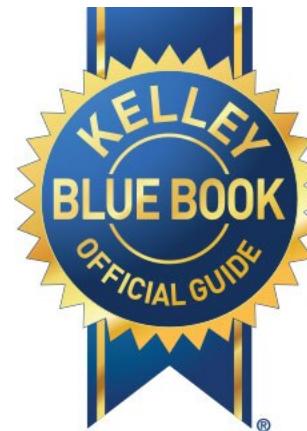
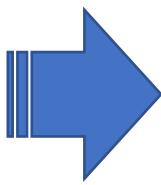
Midsized Sailboat Valuations

By Sean Davern

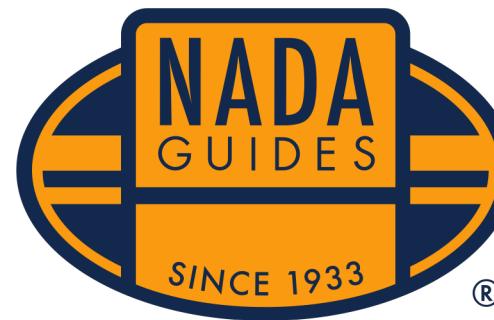
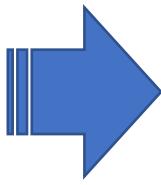
Individual Item Based Estimation



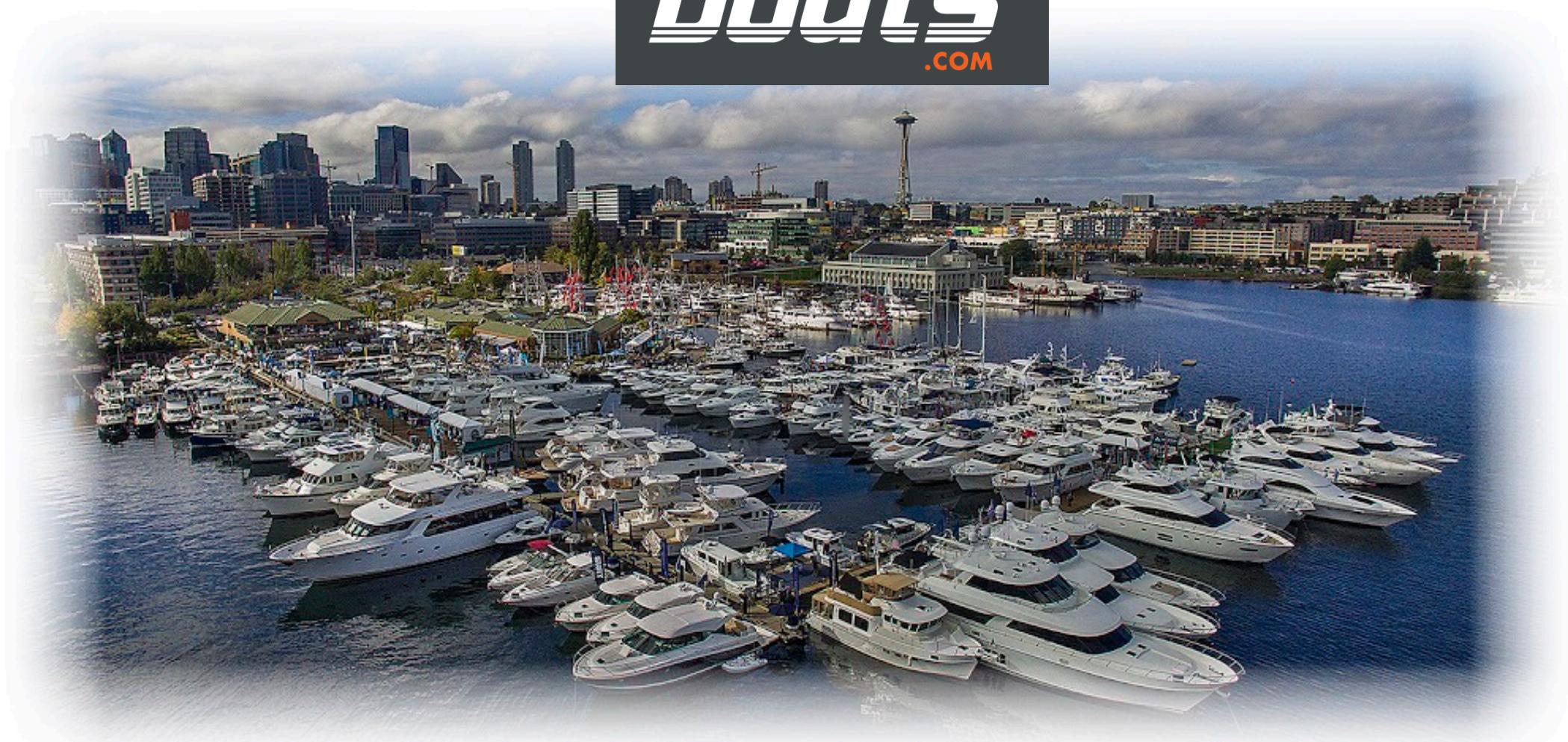
Make,
Model,
Year,
etc.



Make,
Model,
Year,
etc.



Surveying the Market



Gathering Data

boats.com

Explore ▾ Types ▾ Brands Boat Finder Research ▾

Search Sell my Boat US ▾

Your Search Clear all filters

Boat Type: Sail Class: Cruiser (Sail)

Length: 40 - 50ft

Filter Boats By

Condition

- All New (207)
- New - Available for Order (7)
- New - In Stock/On Order (200)
- All In Stock - New and Used (3242)
- Used (3042)

Make

- Beneteau
- Hunter
- Catalina
- Jeanneau
- Island Packet
- Tartan
- Elan
- Sabre
- Bristol
- X-yachts
- More...

Price

- \$0 - \$10000
- \$10000 - \$25000
- \$25000 - \$50000
- \$50000 - \$100000
- \$100000 - \$200000
- \$200000 - \$500000
- \$500000+

Year

- 2018 +
- 2012 - 2017
- 2000 - 2011
- Before 2000
- More...

Location

From my location up to 500 Miles 4 Country

Cruiser (sail) sail boats for sale

3249 Boats Available

Gallery View List View

1929 \$395,000 Seller Sandeman Yacht Company

Cherubini 44 Dutch Wharf Marina, Connecticut 1983 \$295,000 Seller East Coast Yacht Sales - Mystic, CT

Bali 4.3 All Locations, California 2020 \$562,730

price	make	model	year	cls	length_ft	LOA_ft	displacement_lb	fuel_type	power_hp	eng_make	eng_model	eng_year	eng_hrs	location	
5637501	Request Price	Bali	4.5	2020	Catamaran	45	45 ft	32800	Diesel	50	None	None	2016	50	All Locations, California
7213466	89500	Beneteau	OC 400	1996	Sloop	40	40 ft	19200	Diesel	None	Perkins	M-50	None	None	Kenosha, Wisconsin
7216014	125900	Hunter	466	2002	Cruiser (Sail)	46	46 ft 1 in	26180	Diesel	76	Yanmar	None	2002	938	Stamford, Connecticut
7191853	265000	Jeanneau	Sun Odyssey 419	2018	Cruiser (Sail)	42	41 ft 10 in	None	Diesel	45	Yanmar	None	None	300	Portsmouth, Rhode Island

boats.com

Explore ▾ Types ▾ Brands Boat Finder

Send Email

Boat Details

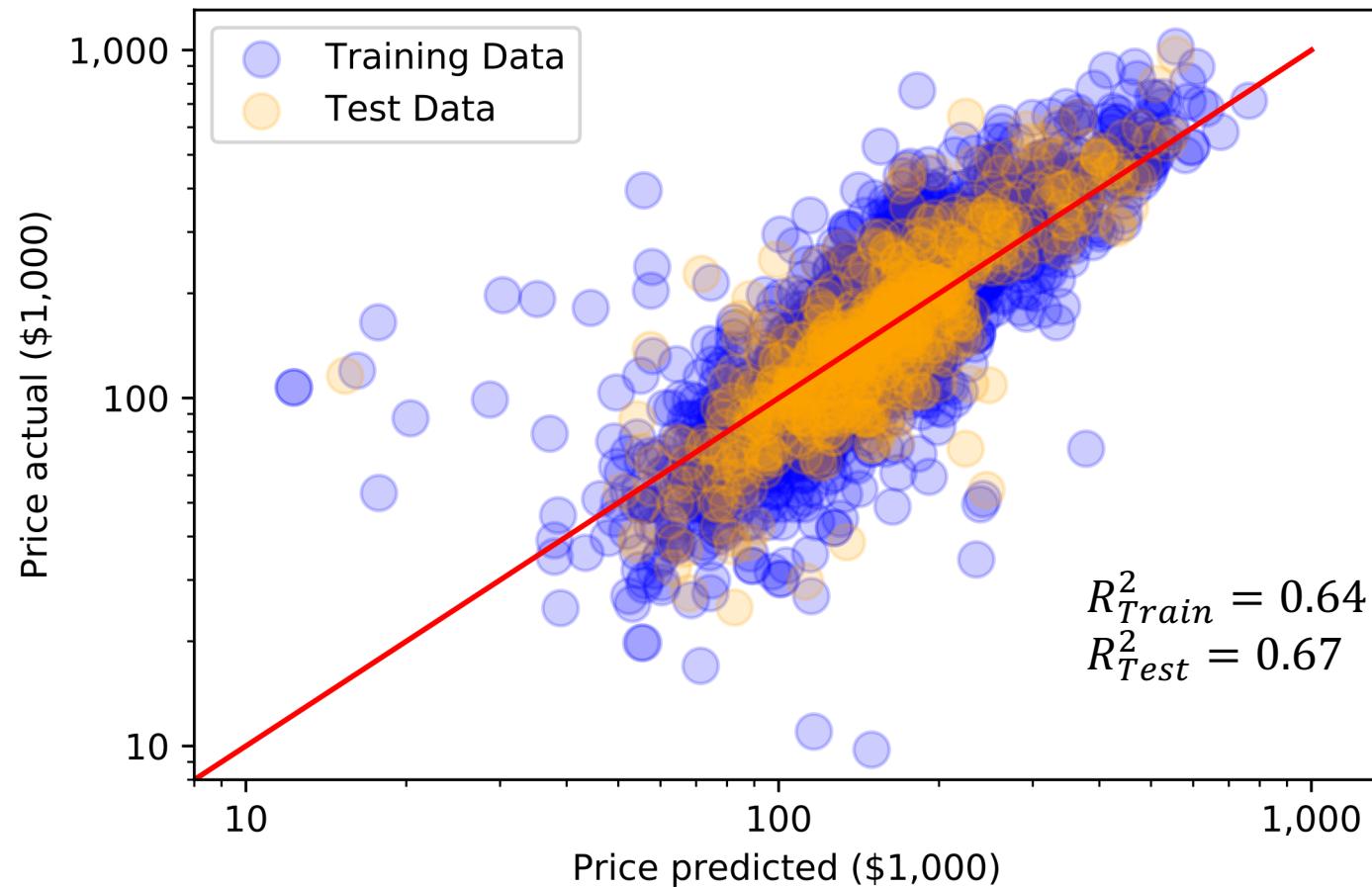
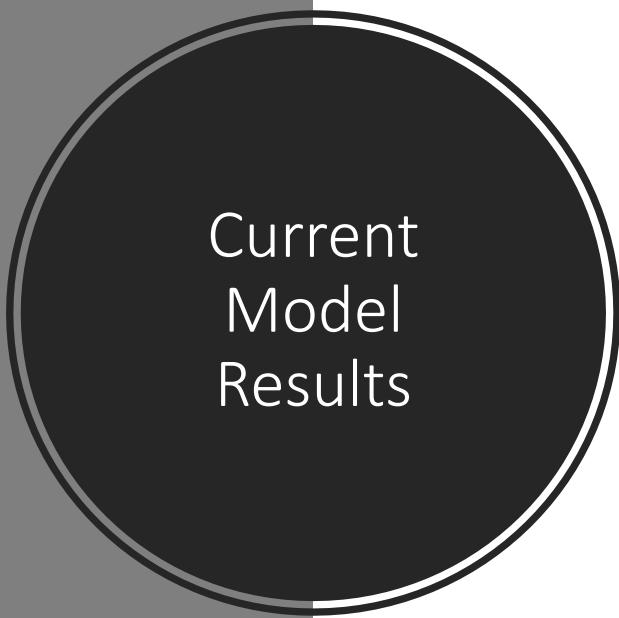
Make	Herreshoff
Model	Fishers Island 31
Year	1929
Condition	Used
Price	US\$395,000
Type	Sail
Class	Antique and Classic (Sail)
Length	43 ft
Fuel Type	Diesel
Hull Material	Wood
Location	United States

Description

In a taped interview in 1975 from the Newport 29 design marketing claimed "...the b... which is exceptionally stuc... KESTREL and her sisters ha... a recent careful ownership classic regatta circuit yet w... ne kids and probably ... More...

$$\log(Price) = f(\text{Mfg, Class, year, length})$$

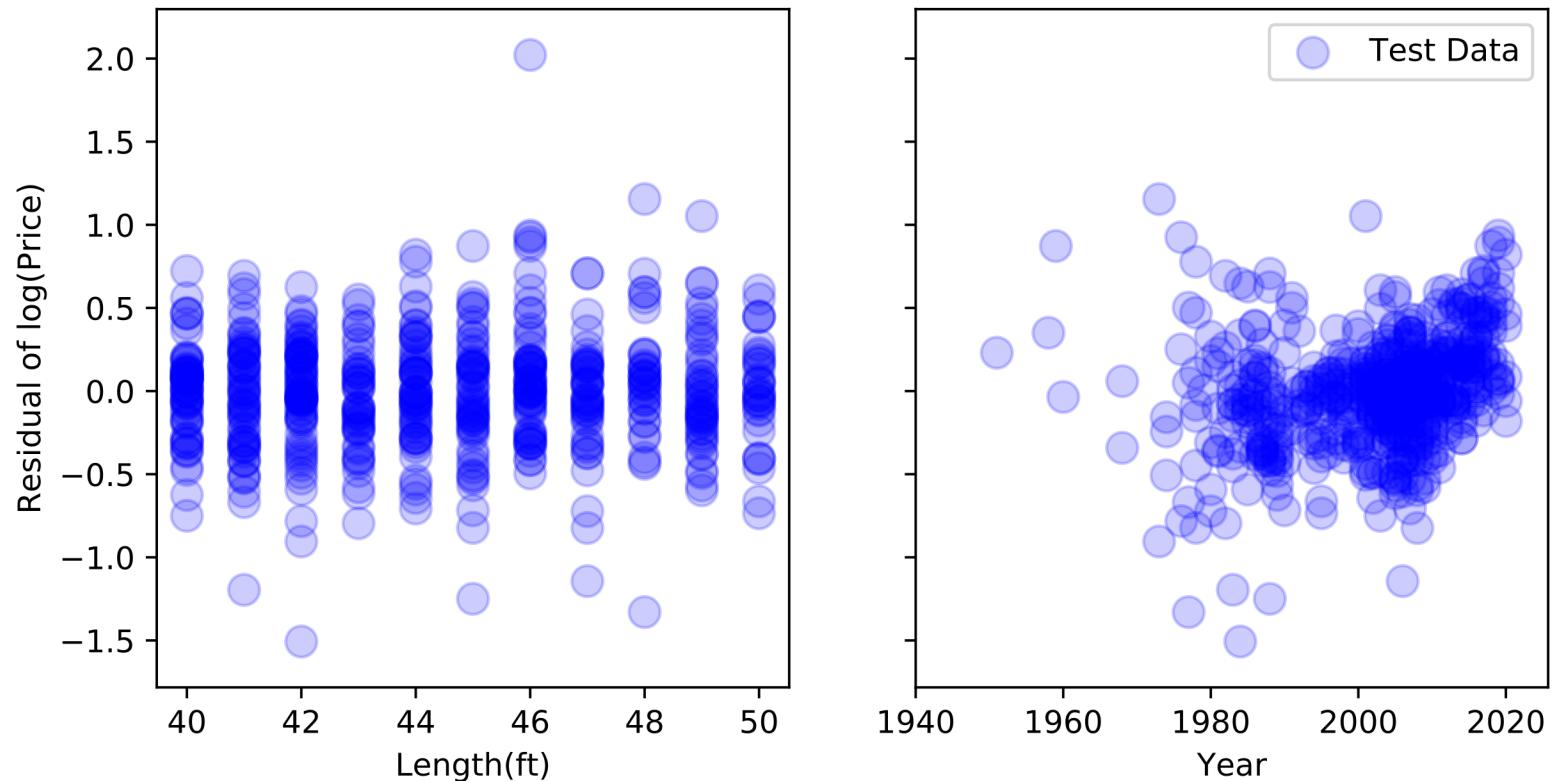
Linear Regression Using 5 fold Cross Validation and LASSO Regularization



Current
Model
Results

$$\log(Price) = f(\text{Mfg, Class, year, length})$$

Linear Regression Using 5 fold Cross Validation and LASSO Regularization



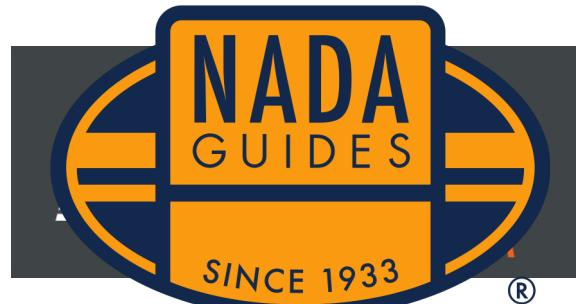
$$MAE_{Train} = 0.27$$

$$MAE_{Test} = 0.25$$

Future Work



- Location
- Age*Antique
- Regularize ALL Mfg's

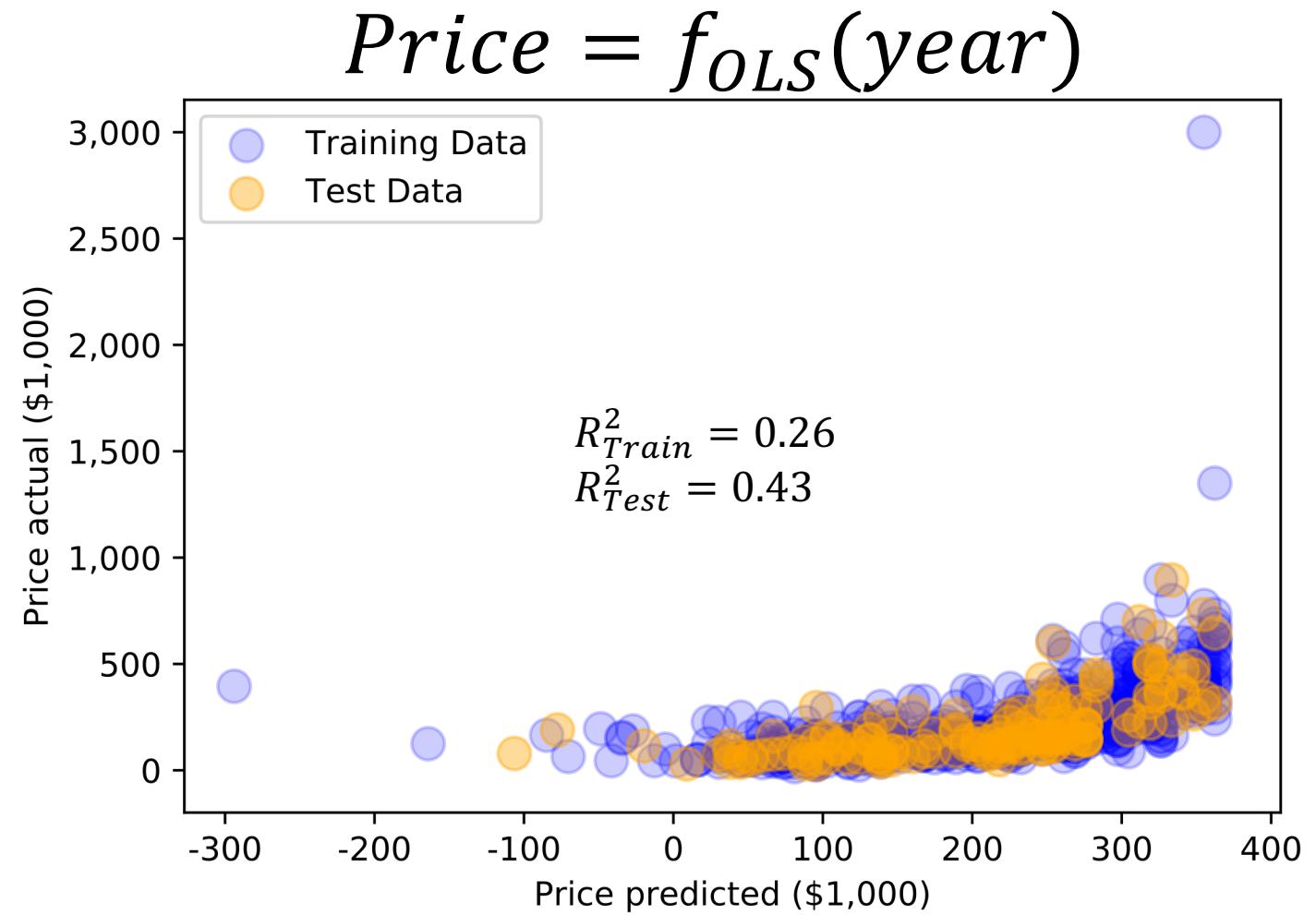


$$\Rightarrow f(x_i)$$



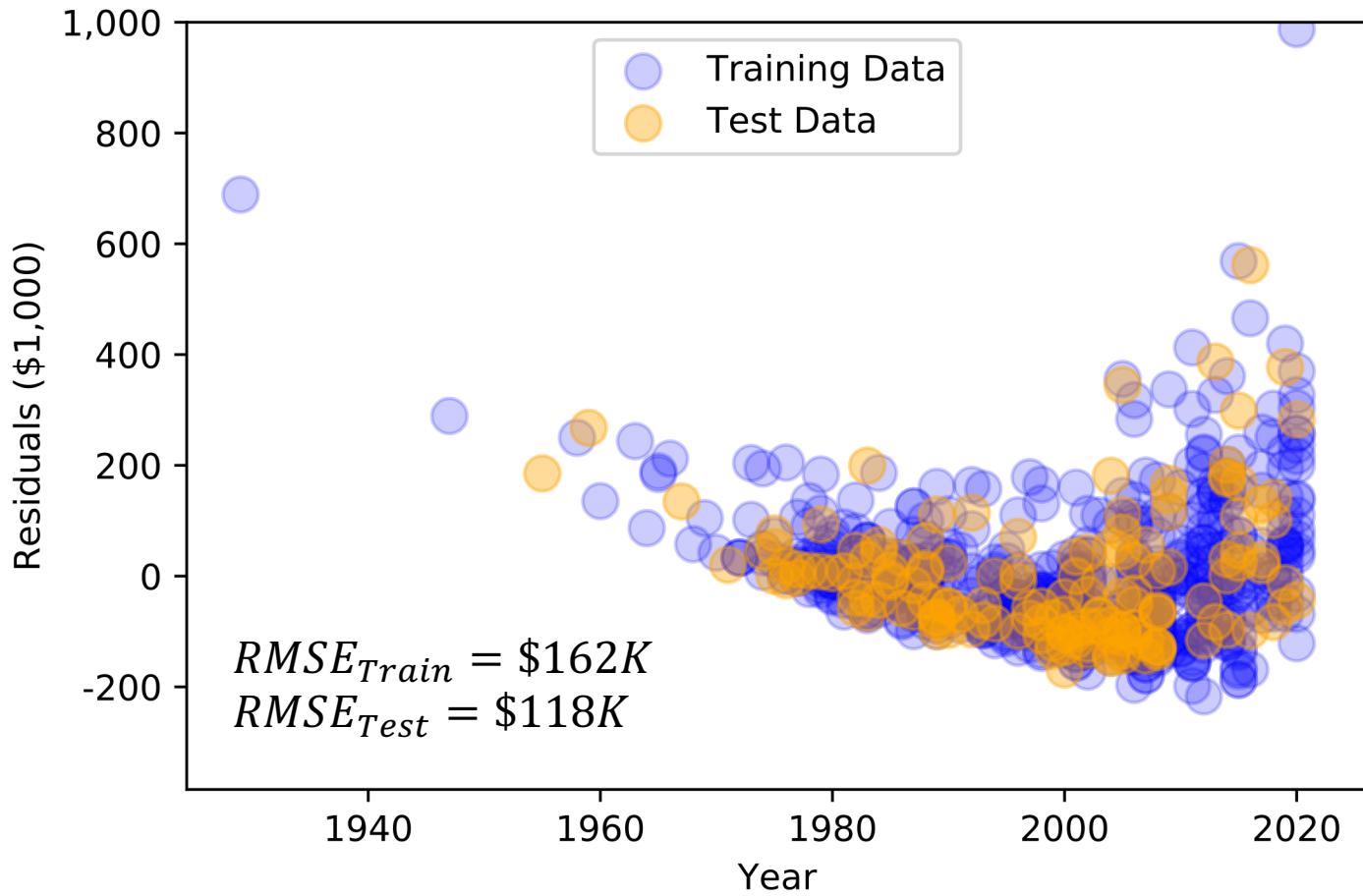


Appendix



MVP

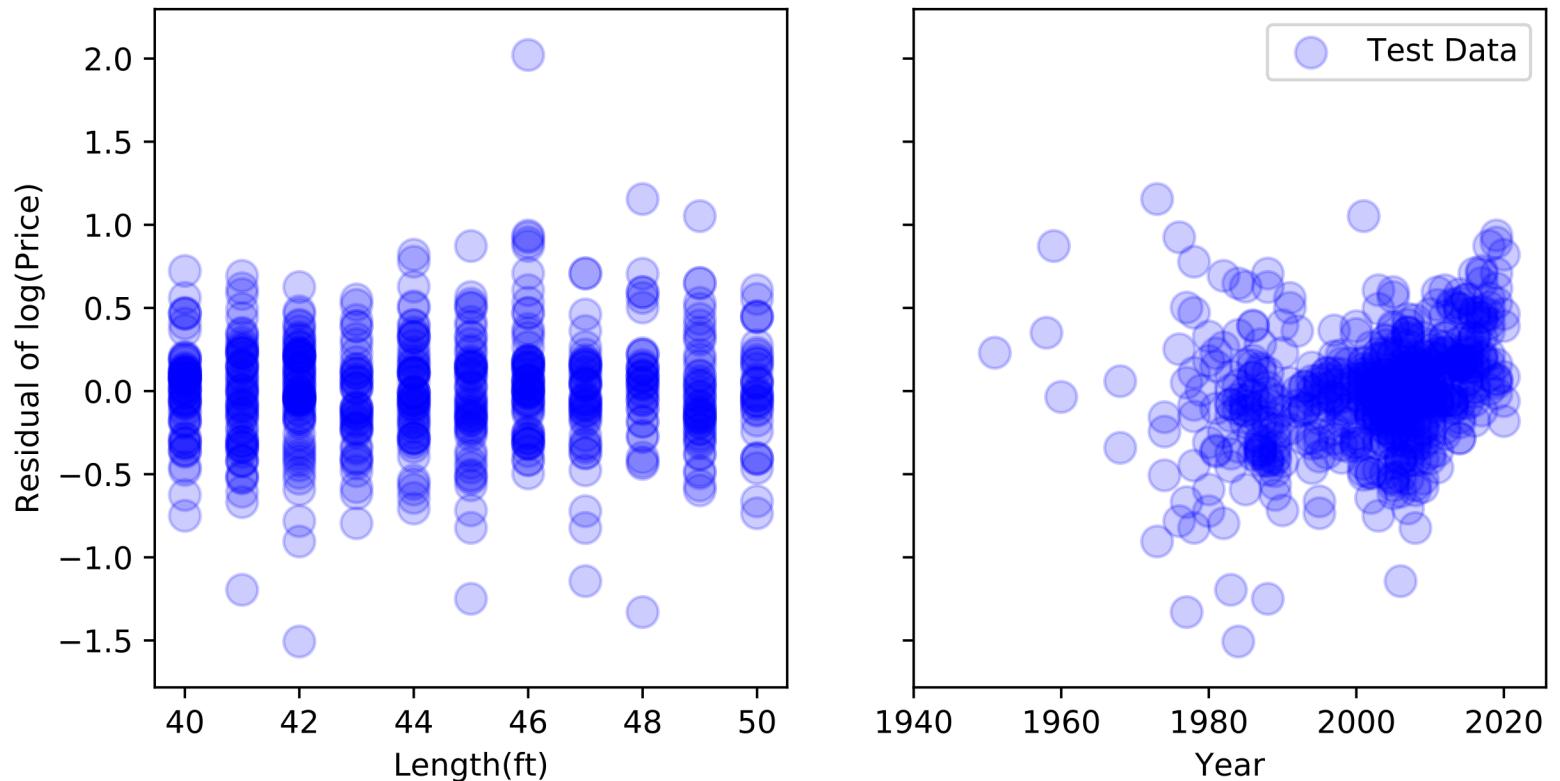
$$Price = f_{OLS}(year)$$



Current
Model
Results

$$\log(Price) = f(\text{Mfg, Class, year, length})$$

Linear Regression Using 5 fold Cross Validation and LASSO Regularization



$$RMSE_{Train} = 0.38$$
$$RMSE_{Test} = 0.35$$