Cap-stone: Team4
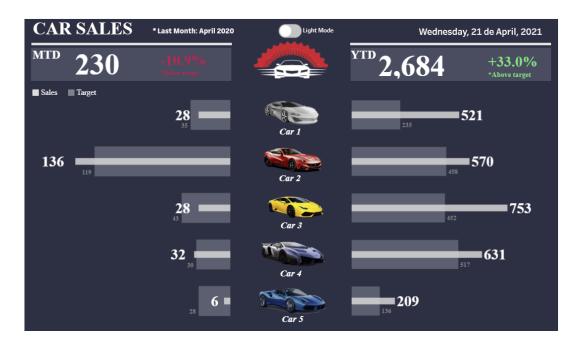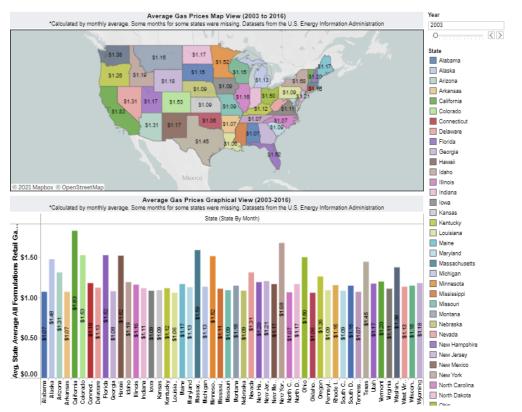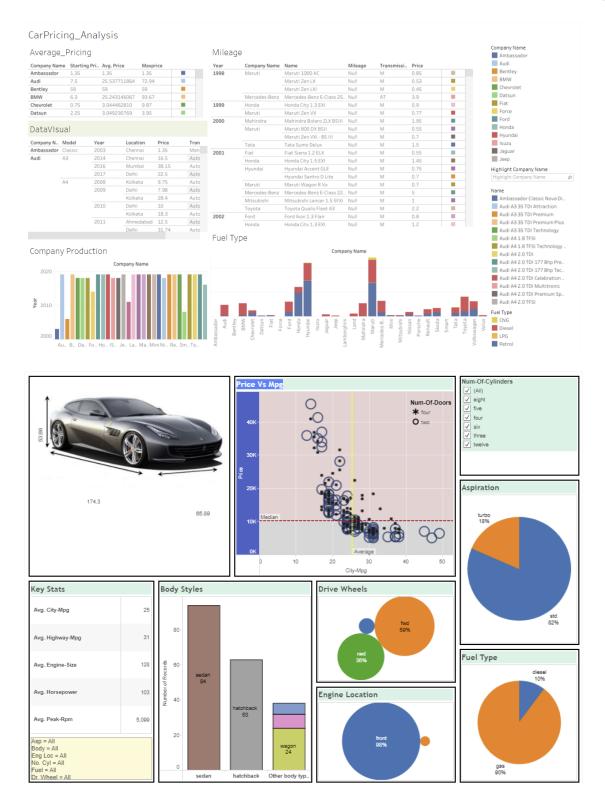
Topic: US Cars Auction 2020

1. Dataset: https://www.kaggle.com/doaaalsenani/usa-cers-dataset?select=USA_cars_datasets.csv
2. What you plan/hope to predict:
   o Car's worth depending on the vehicle information, state. ("TrueCar.com")
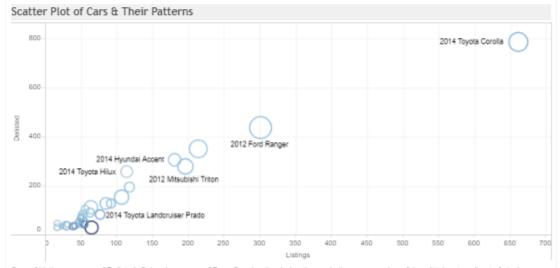3. Screenshots for tableau inspiration
   o Chart on price, year, model

CarPricing_Analysis

Average_Pricing

Company Name	Starting Pri..	Avg. Price	Maxprice	
Ambassador	1.35	1.35	1.35	
Audi	7.5	25.537711864	72.94	
Bentley	59	59	59	
BMW	6.3	25.243146067	93.67	
Chevrolet	0.75	3.044462810	9.87	
Datsun	2.25	3.049230769	3.95	

DataVIsual

Company N..	Model	Year	Location	Price	Tran
Ambassador	Classic	2003	Chennai	1.35	Man
Audi	A3	2014	Chennai	16.5	Auto
		2016	Mumbai	38.15	Auto
		2017	Delhi	22.5	Auto
	A4	2008	Kolkata	9.75	Auto
		2009	Delhi	7.98	Auto
			Kolkata	28.4	Auto
		2010	Delhi	10	Auto
			Kolkata	18.3	Auto
		2011	Ahmedabad	12.5	Auto
			Delhi	31.74	Auto

Mileage

Year	Company Name	Name	Mileage	Transmissi..	Price	
1998	Maruti	Maruti 1000 AC	Null	M	0.85	
		Maruti Zen LX	Null	M	0.53	
		Maruti Zen LXI	Null	M	0.45	
	Mercedes-Benz	Mercedes-Benz E-Class 25..	Null	AT	3.9	
1999	Honda	Honda City 1.3 EXI	Null	M	0.9	
	Maruti	Maruti Zen VX	Null	M	0.77	
2000	Mahindra	Mahindra Bolero ZLX BSIII	Null	M	1.95	
	Maruti	Maruti 800 DX BSII	Null	M	0.55	
		Maruti Zen VXi - BS III	Null	M	0.7	
	Tata	Tata Sumo Delux	Null	M	1.5	
2001	Fiat	Fiat Siena 1.2 ELX	Null	M	0.55	
	Honda	Honda City 1.5 EXI	Null	M	1.45	
	Hyundai	Hyundai Accent GLE	Null	M	0.75	
		Hyundai Santro D Lite	Null	M	0.7	
	Maruti	Maruti Wagon R Vx	Null	M	0.7	
	Mercedes-Benz	Mercedes-Benz E-Class 22..	Null	M	5	
	Mitsubishi	Mitsubishi Lancer 1.5 SFXi	Null	M	1	
	Toyota	Toyota Qualis Fleet A3	Null	M	2.2	
2002	Ford	Ford Ikon 1.3 Flair	Null	M	0.8	
	Honda	Honda City 1.3 EXI	Null	M	1.2	

Company Name: Ambassador, Audi, Bentley, BMW, Chevrolet, Datsun, Fiat, Force, Ford, Honda, Hyundai, Isuzu, Jaguar, Jeep

Highlight Company Name

Name: Ambassador Classic Nova Di.., Audi A3 35 TDI Attraction, Audi A3 35 TDI Premium, Audi A3 35 TDI Premium Plus, Audi A3 35 TDI Technology, Audi A4 1.8 TFSI, Audi A4 1.8 TFSI Technology .., Audi A4 2.0 TDI, Audi A4 2.0 TDI 177 Bhp Pre.., Audi A4 2.0 TDI 177 Bhp Tec.., Audi A4 2.0 TDI Celebration .., Audi A4 2.0 TDI Multitronic, Audi A4 2.0 TDI Premium Sp.., Audi A4 2.0 TFSI

Company Production

Fuel Type

Fuel Type: CNG, Diesel, LPG, Petrol

Price Vs Mpg

Num-Of-Doors: four, two

Num-Of-Cylinders

(All), eight, five, four, six, three, twelve

Aspiration

turbo 18%, std 82%

Key Stats

Avg. City-Mpg	25
Avg. Highway-Mpg	31
Avg. Engine-Size	128
Avg. Horsepower	103
Avg. Peak-Rpm	5,099

Asp = All
Body = All
Eng Loc = All
No. Cyl = All
Fuel = All
Dr. Wheel = All

Body Styles

sedan 94, hatchback 63, wagon 24

Drive Wheels

fwd 59%, rwd 36%

Engine Location

front 98%

Fuel Type

diesel 10%, gas 90%

FASTEST MOVING CARS - DECEMBER 2015

carsales

Filter the data by Price & Make - Simply click on one or either

Price Brackets

$7.5k to $15.. | $15k to $30k | Above $30k

$ $$ $$$

Make

Audi   Ford   Honda   Hyundai   Isuzu   Kia   Mazda   Mercod..   Mitsub..   Nissan   Subaru   Suzuki   Toyota

Table of Fastest Moving Cars

Price Bracket	Vehicle	Price	Age	Kilometres	Listings	Delisted	Days Supply	Watched
$7.5k to $15k	2004 Toyota RAV4	8,913	37	161,129	53	82	39	488
	2007 Hyundai Tuscon	9,045	39	124,998	55	43	77	295
	2008 Mazda 2	8,812	41	88,585	107	154	42	1,312
	2009 Mitsubishi Outlander	14,844	38	108,285	50	66	45	301
	2010 Nissan Tiida	10,226	39	75,748	48	50	58	408
	2011 Honda Jazz	11,752	40	58,971	51	73	42	337
	2011 Hyundai Accent	11,934	40	53,909	23	32	43	82
	2012 Mazda 2	12,027	38	42,394	92	128	43	521
	2013 Mazda 2	13,205	38	28,225	56	105	32	401
	2014 Hyundai Accent	14,017	36	28,720	181	306	35	970
$15k to $30k	2010 Suzuki Grand Vitara	16,200	37	92,345	54	51	64	486
	2011 Honda CR-V	20,411	33	70,489	42	38	66	241
	2011 Isuzu D-MAX	24,599	39	103,774	63	91	42	474
	2011 Kia Sorento	25,485	39	86,066	39	35	67	282
	2011 Mitsubishi Challenger	24,326	34	91,508	24	40	36	90
	2011 Mitsubishi Triton	21,726	40	104,992	214	351	37	2,003
	2012 Isuzu D-MAX	29,144	39	75,823	77	83	56	573
	2012 Mitsubishi Triton	23,893	34	78,963	196	279	42	1,505
	2013 Mitsubishi Triton	27,132	34	47,066	118	195	36	615
	2014 Toyota Corolla	19,110	40	29,386	661	786	50	2,292
Above $30k	2012 Audi Q3	35,971	38	44,408	31	42	44	180
	2012 Ford Ranger	34,671	38	83,890	301	437	41	3,016
	2013 Audi A4	44,555	40	27,972	65	30	130	1,100
	2013 Audi Q7	75,166	36	38,963	30	38	47	461
	2013 Hyundai Santa Fe	37,278	40	49,573	50	69	43	301
	2013 Mercedes-Benz A250	46,367	37	29,224	17	31	33	237
	2013 Subaru Outback	30,150	37	48,827	17	47	22	221
	2014 Toyota Hilux	40,635	41	27,547	114	258	27	883
	2014 Toyota Landcruiser	82,944	38	29,721	64	113	34	1,124
	2014 Toyota Landcruiser Prado	58,868	37	28,943	85	128	40	860

Scatter Plot of Cars & Their Patterns

Sum of Listings vs. sum of Delisted. Color shows sum of Days Supply - the darker the mark, the more number of days it takes to sell out of stock (assuming there is no vehicle replenishment). Size shows sum of Watched - the larger the mark, the higher the number of watchers. The marks are labeled by Vehicle. Details are shown for Vehicle. The data is filtered on Price Bracket. which keeps $15k to $30k, $7.5k to $15k and Above $30k.

Sales Territory Map for Car Sales by Model Year
Please use map as dashboard filter

4. Links to code/notebooks for ML inspiration
    o https://www.kaggle.com/alfathterry/cars-price-prediction-automl
    o https://www.kaggle.com/aman10kr/us-car-sale
    o https://www.kaggle.com/adyajaiswal/usa-cars-data-analysis
5. Break down of roles/responsibilities
    o Machine Learning/Flask: Justin Merryman
    o Tableau: Patricia Berry, Cade Culver, Karla Murphy
    o Web design: Cade Culver, Karla Murphy
    o Write Up: Patricia Berry
    o Power Point: Karla Murphy
    o Read me: All
6. Basic hypotheses, trends
    o Identify sales trends so we can predict the car pricing and future sales.
    o Sales trends by model, year, location and milage.
7. Design inspirations - color schemes, fonts, etc.
    o https://coolors.co
    o https://bootswatch.com/slate/
    o https://bootswatch.com/lux/