



House Sales in King County, Seattle, USA

Predicting house prices,
using sales data from May
2014 to May 2015

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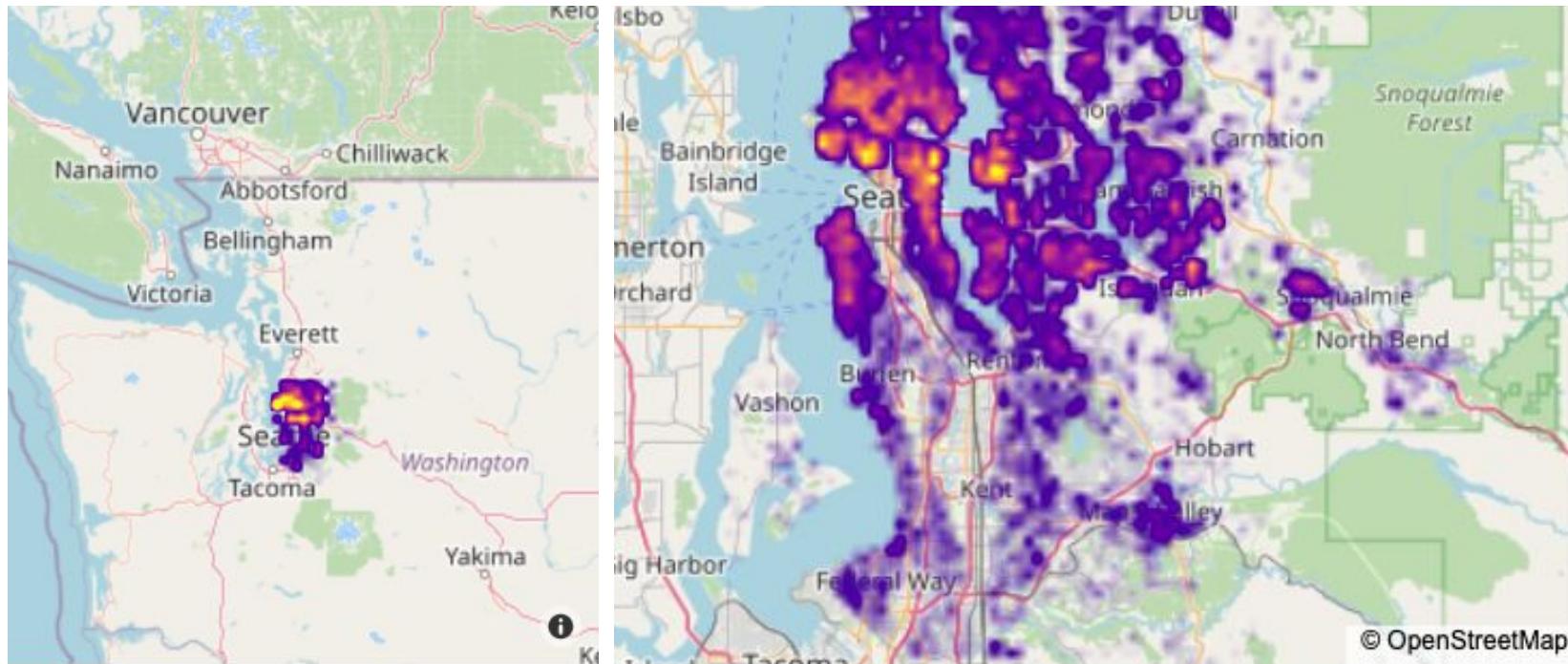
- ✖ Waterfront, cheap, and available.

04

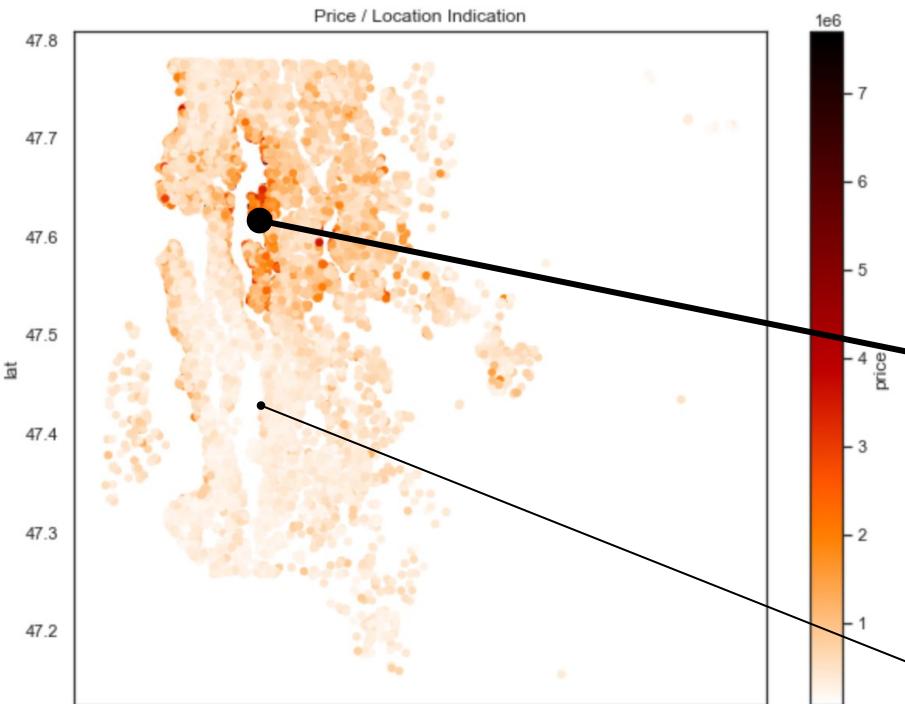
Model Validation

- Test-train-split-validation and the RMSE

King County, USA



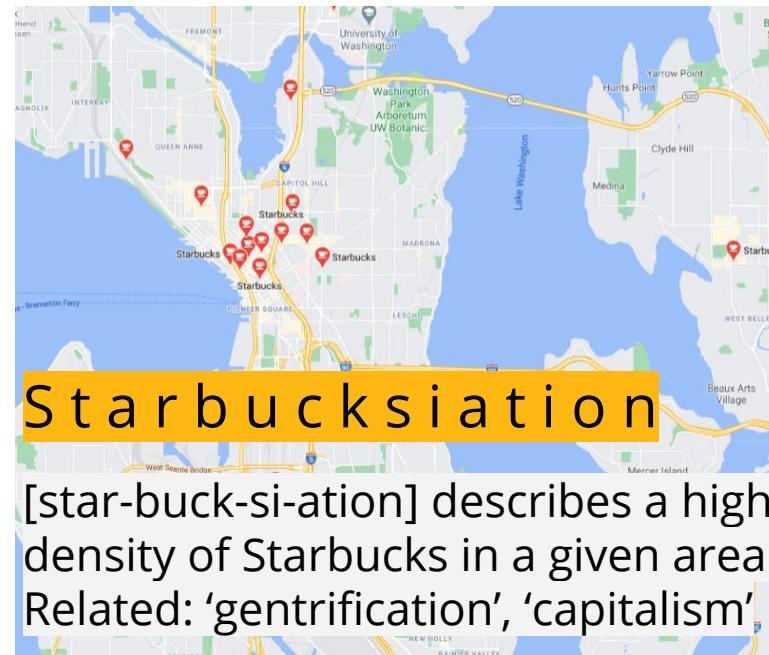
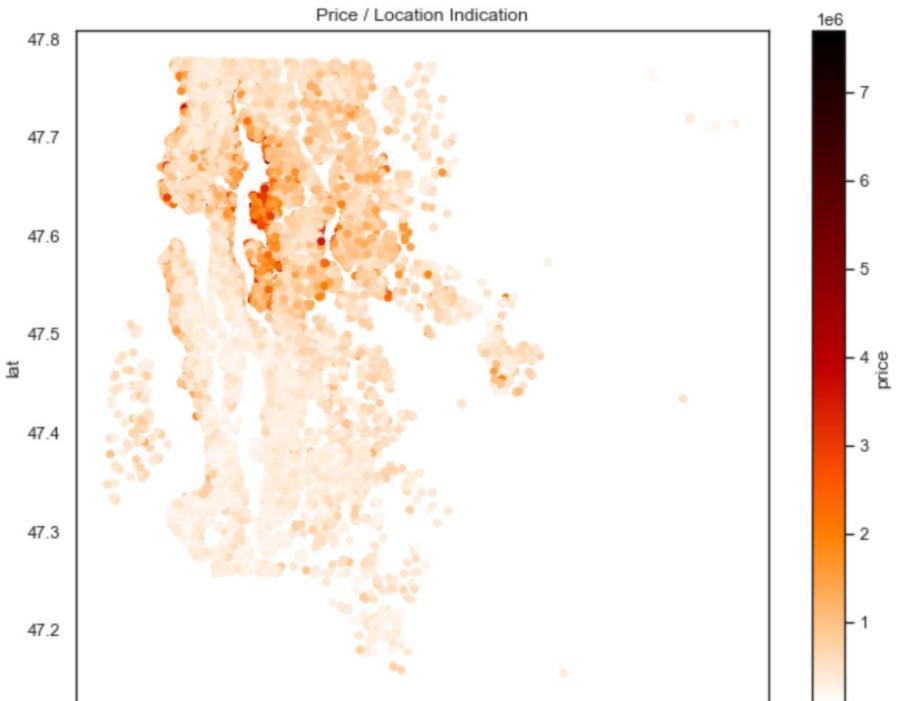
King County, USA



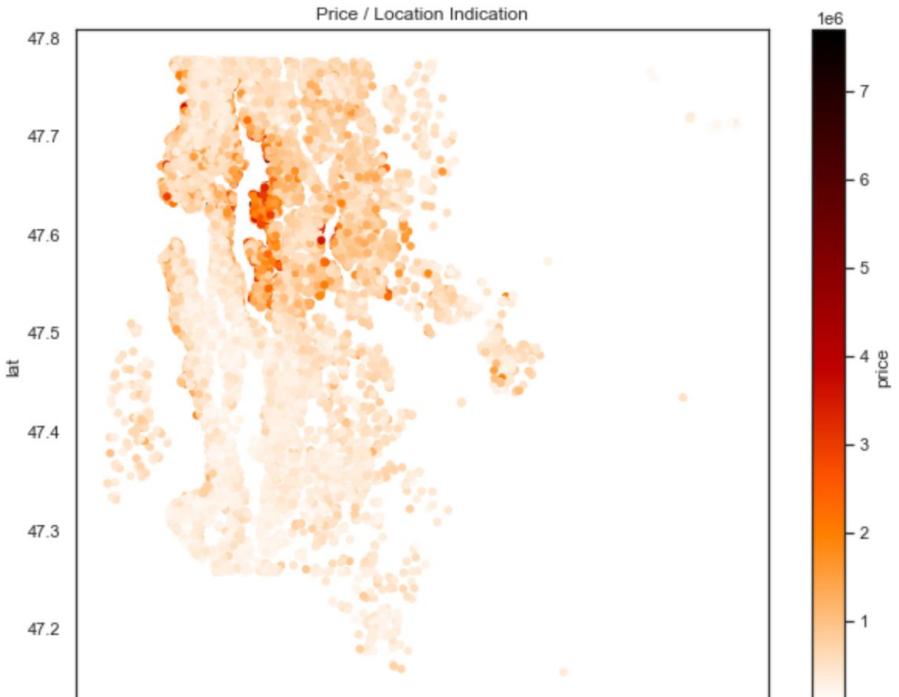
Is this the
middle of
Seattle?

Cheap
waterfront?
Sadly not.

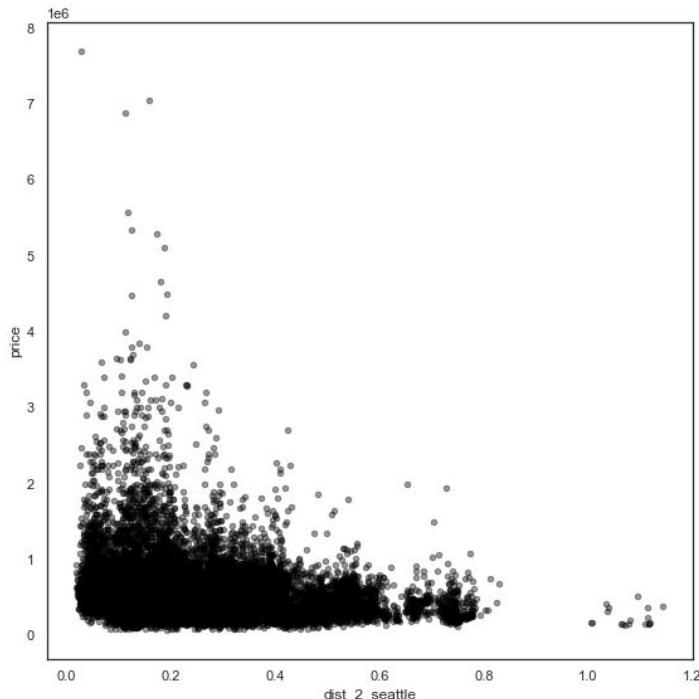
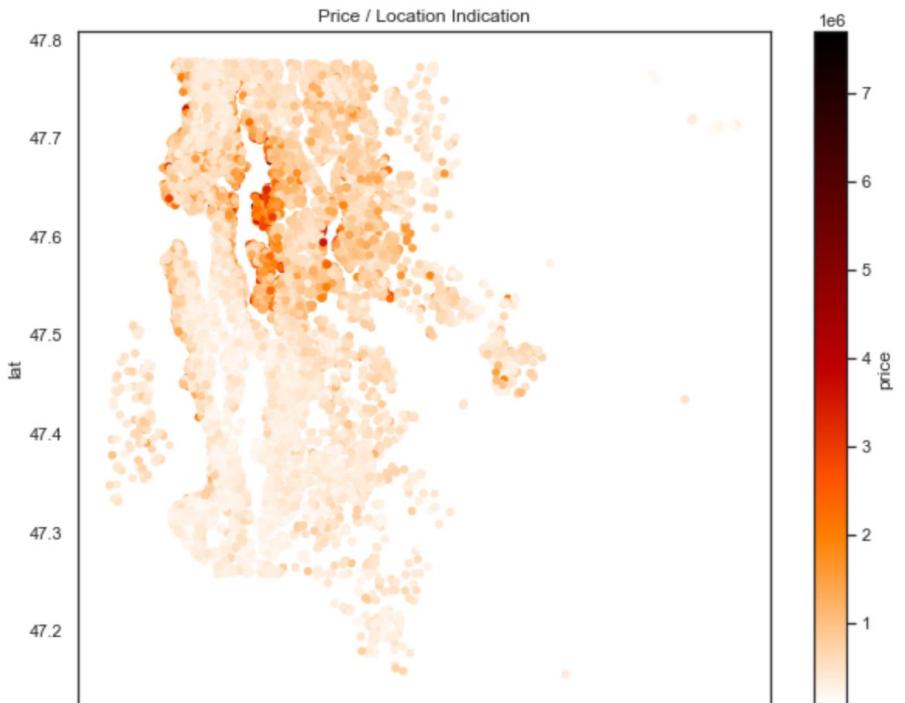
King County, USA



King County, USA



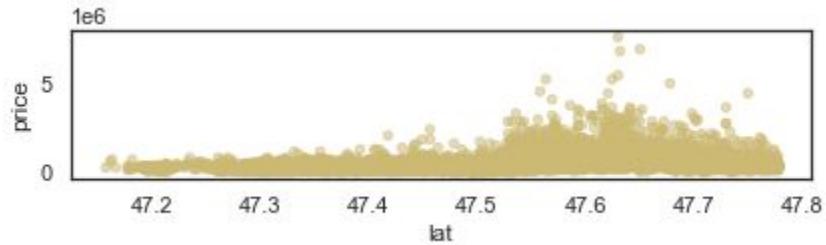
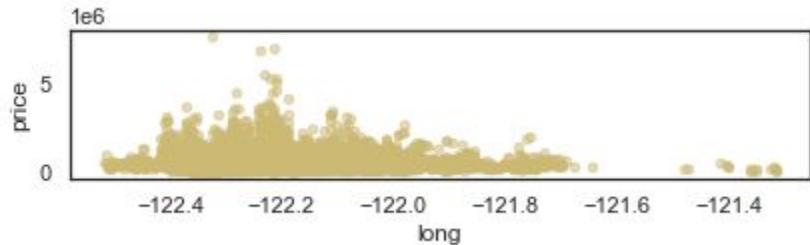
King County, USA



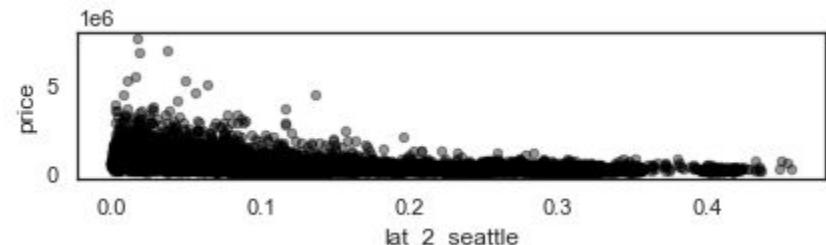
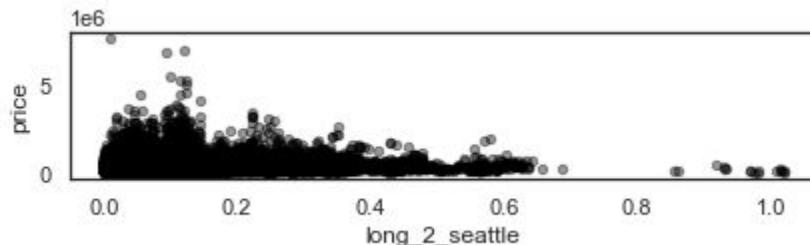
King County, USA



Absolut Geolocation on price



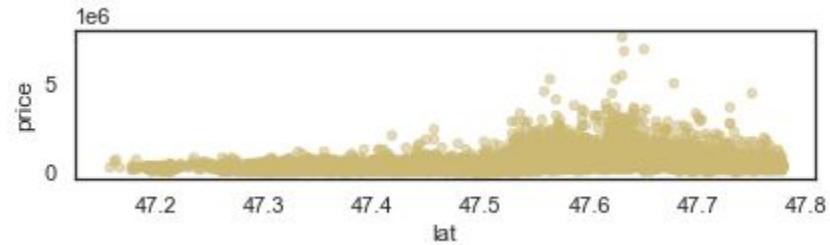
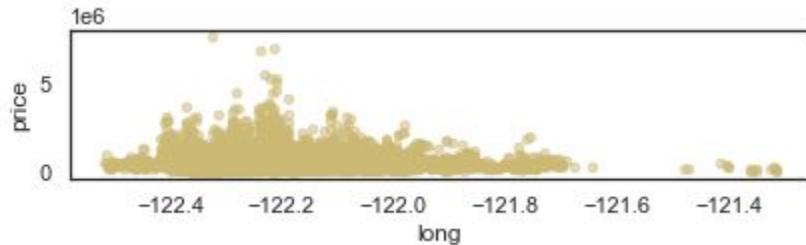
Geolocation relative to Seattle City Center on price



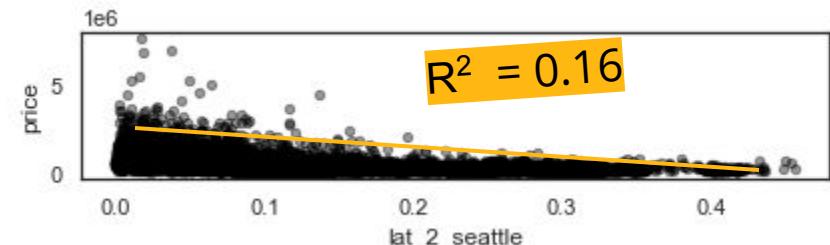
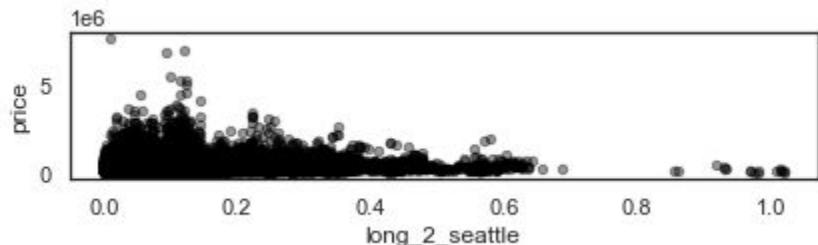
King County, USA



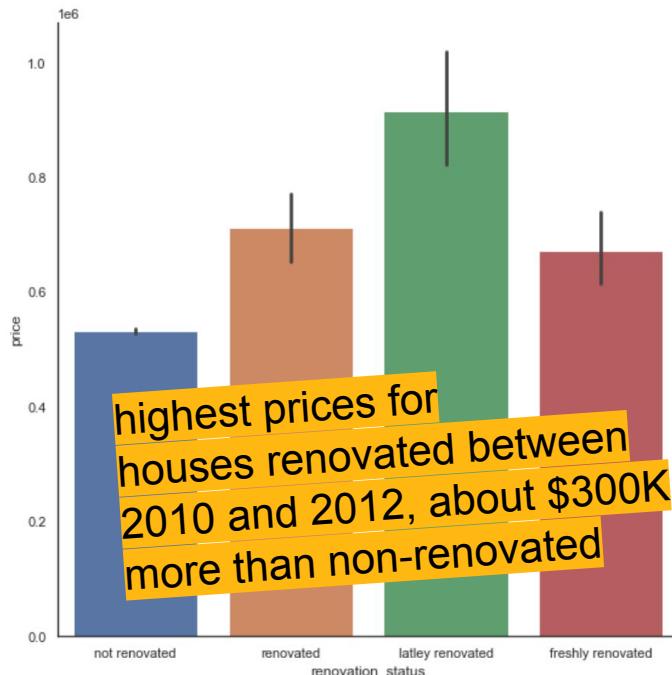
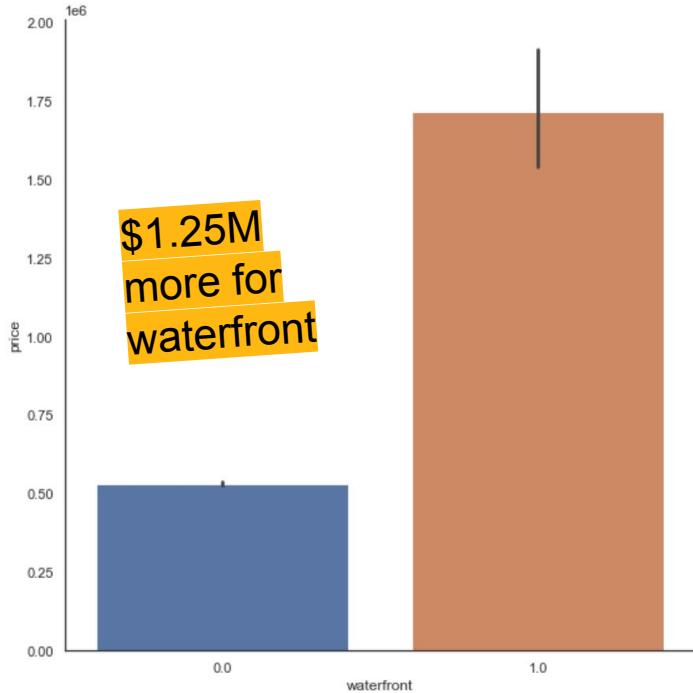
Absolut Geolocation on price



Geolocation relative to Seattle City Center on price



King County, USA



King County, USA

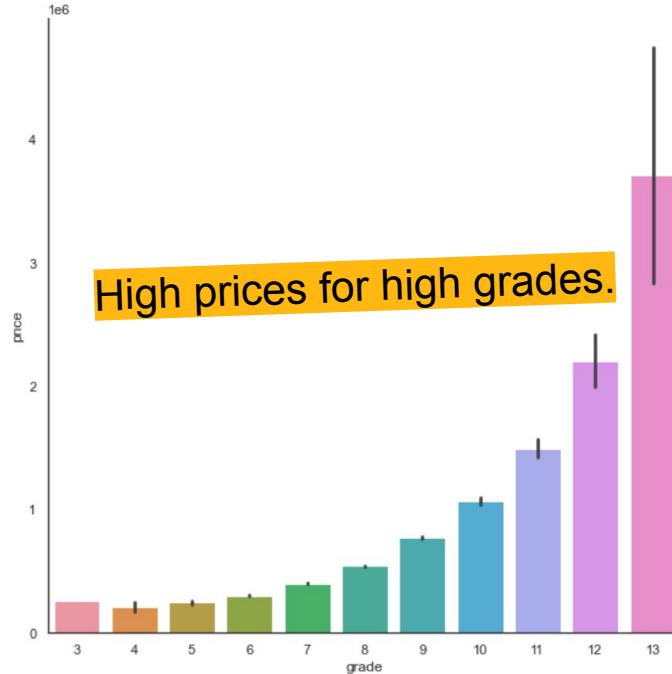
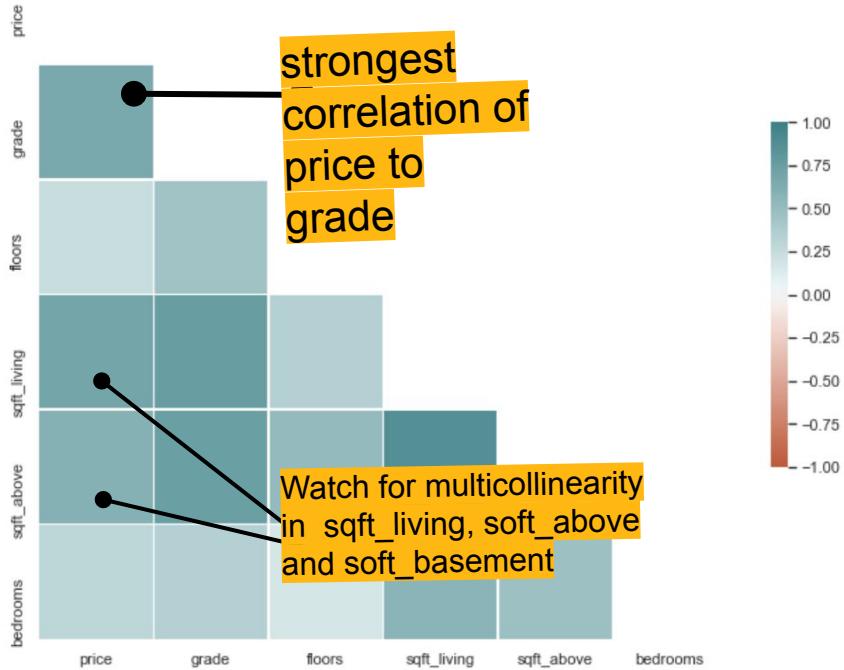


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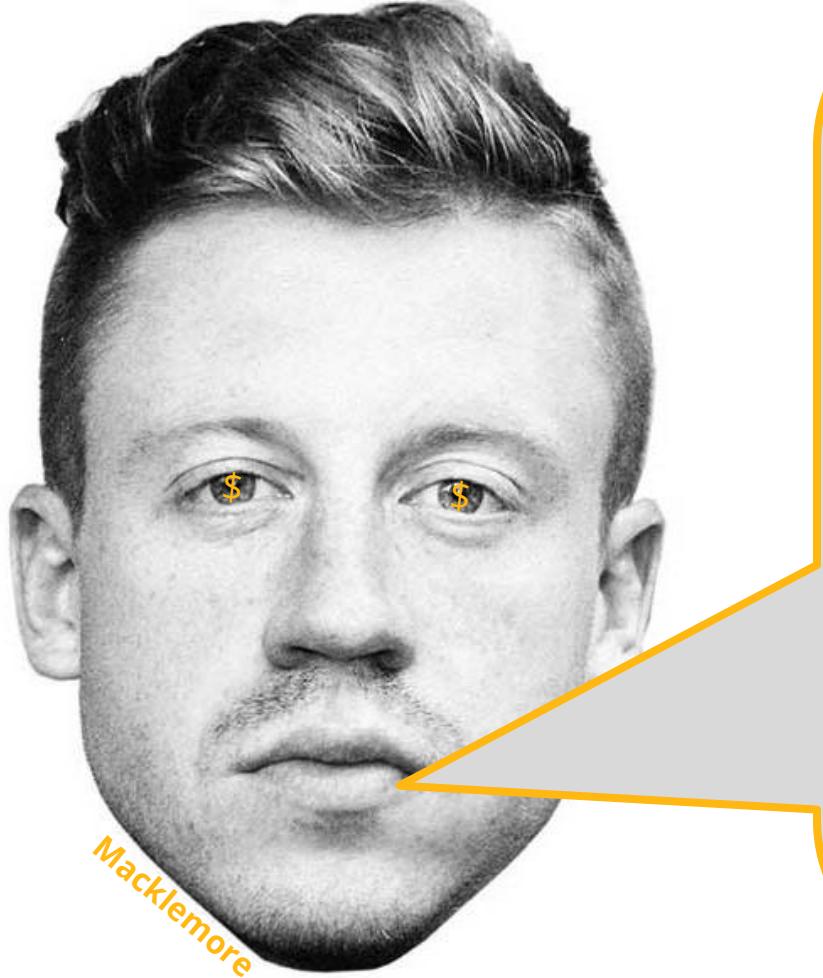
Karl's New House

Waterfront, cheap, and available.

04

Model Validation

Test-train-split-validation and the RMSE

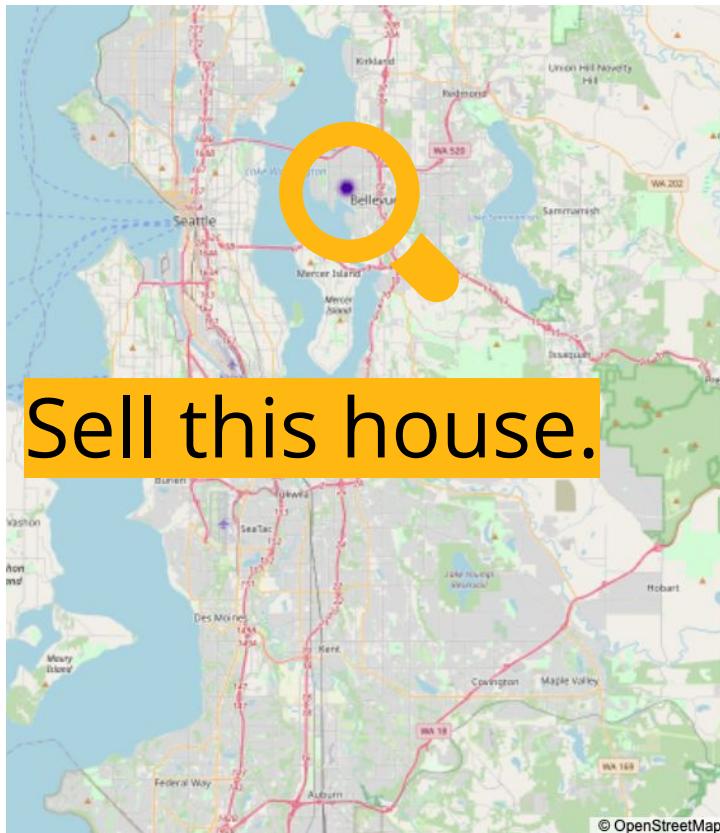


Old friend, I need a new place. This whole home office thing makes me crazy. I live in Seattle, but I don't see the water. I live at 98004 right now, you know the place. It's run-down at the moment.

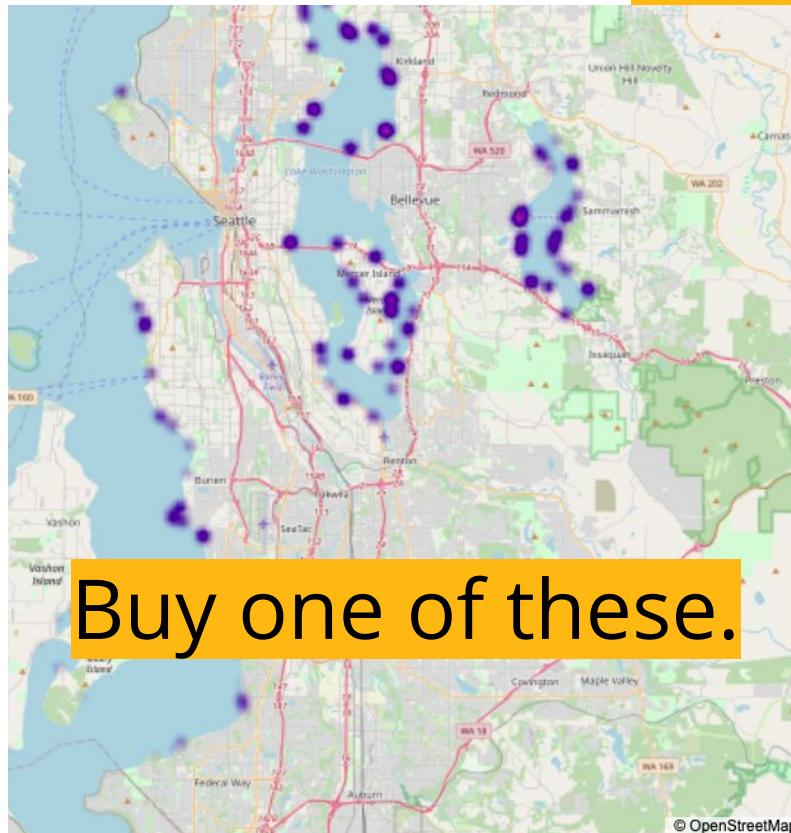
Make it cheap, but I want to move in ASAP.

Get back to me soon. B.

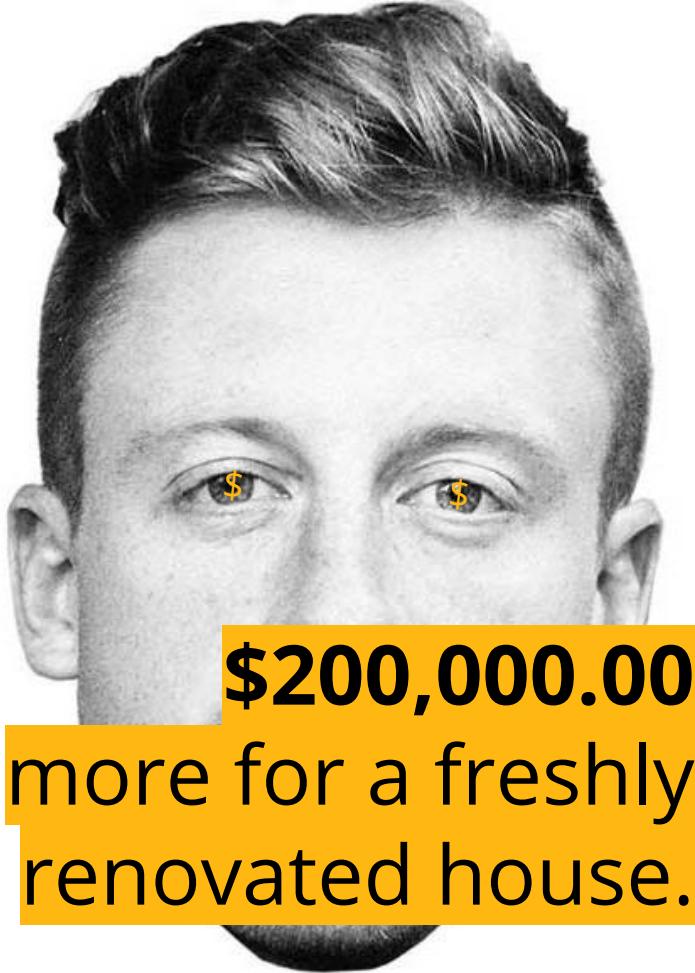
Old friend, I need a new place. This whole
{BS_indicator=True} {\$\$\$\$}
home office thing makes me crazy. I live in Seattle, but I
{hyper sensitive customer}
don't see the water. I live at 98004 right now,
{need: view = 1} {selling price?!}
you know the place. It's run-down at the moment.
{df[Bill's place']} {optional: renovation}
Make it cheap, but I want to move in ASAP.
{\$\$\$: no} {need: high turnover rate}
Get back to me soon. B.
{deadline: 40h}



Sell this house.



Buy one of these.



\$200,000.00
more for a freshly
renovated house.

Macklemore

Ben's Place:



Bedrooms	3
bathrooms	3
sqft_living	4560
sqft_above	2760
sqft_lot15	13362
waterfront	0
grade	11

Renovation_status: not renovated

→ USD 2,909,336.00

Renovation_status: renovated

→ USD 3,129,036.00

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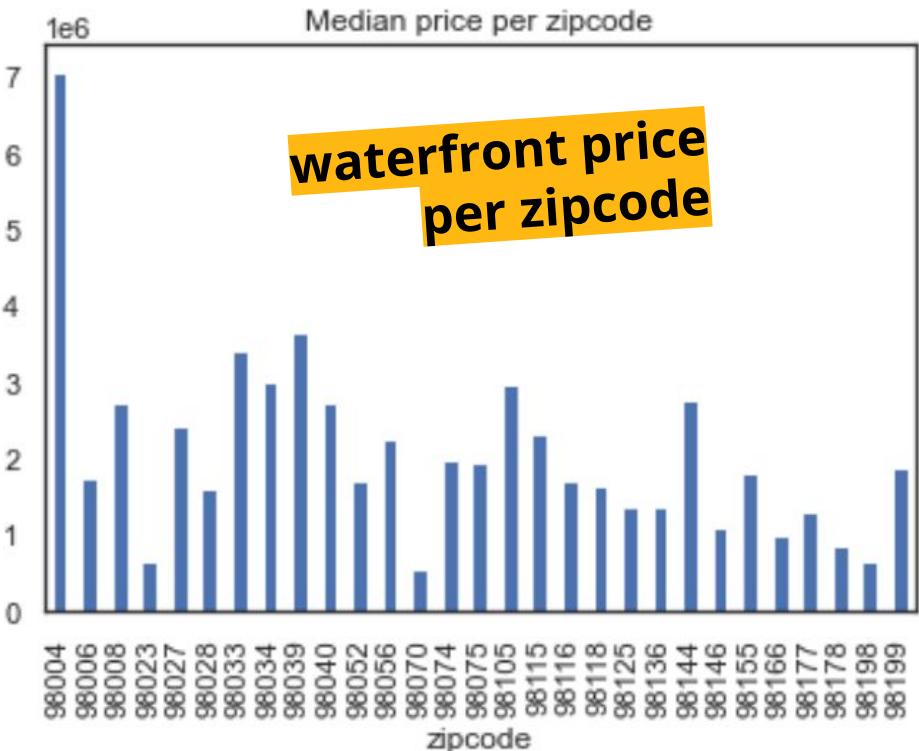
Test-train-split-validation and the RMSE



146 houses ✕

At waterfront have been sold last year.
That's less than 1% of all sales in the region.

Where to buy Waterfront ✨



\$ 1,500,000.00

costs the median house with waterfront. Prices range mostly between \$850K and \$2,300K.

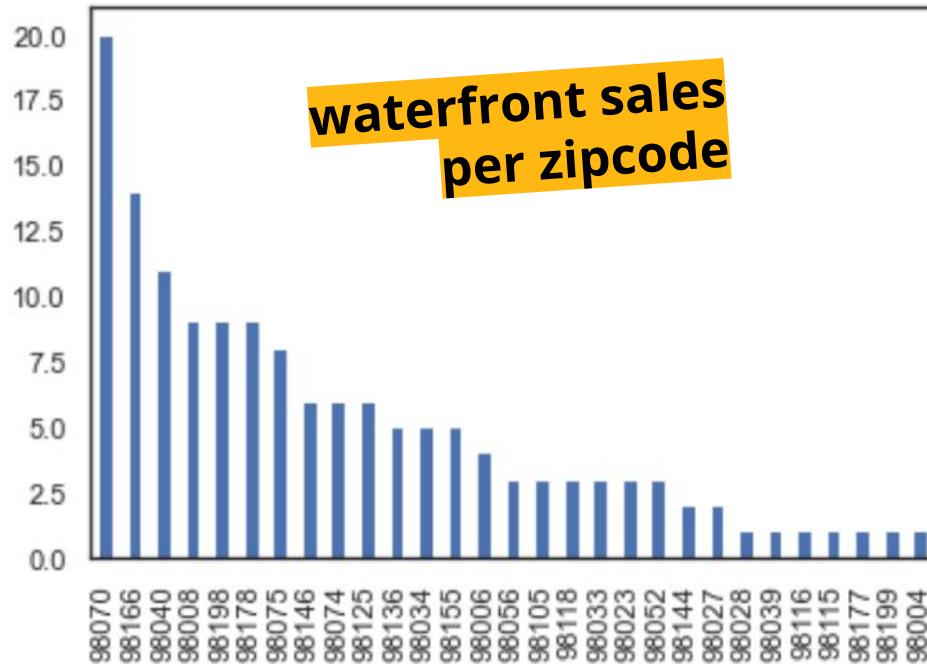
98070, 98166, 98040

30% of all houses with waterfront are sold in these zipcode areas. With a median price of only \$1,500K.

98070, 96023

zipcode areas with rather cheap waterfront houses.

Where to buy Waterfront ✨



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98070, 98166, 98040

30% of all houses with waterfront are sold in these zipcode areas. With a median price of only \$1,500K.

98070, 96023

zipcode areas with rather cheap waterfront houses.

Ben! Good to hear from you. Renovate your place for no more than \$200K. Not worth it. Look for a new place with waterfront in 98070, 98166, and 98040. Will cost you about \$1,500K. Or cheaper in 98200, 98075.

Btw, this analysis is $48\text{h} * \$95 \text{ USD/h} \approx \5K - whenever it suits you. Good talking to you. Hope your family is doing fine.



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x_train: 17277

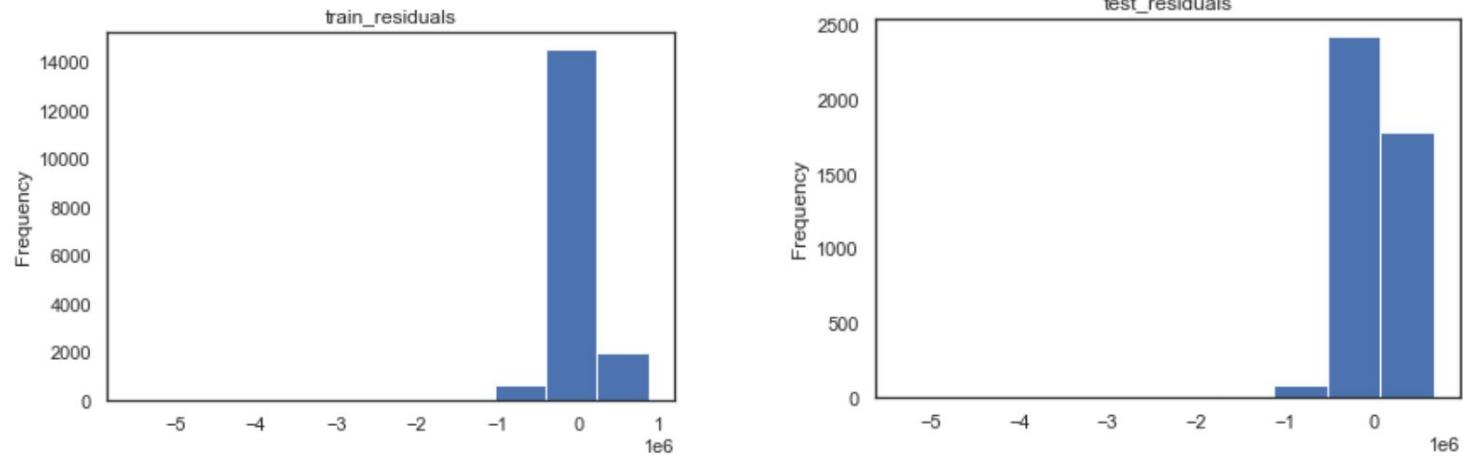
x_test: 4320 ✘

```
sklearn.model_selection.train_test_split(test_size=0.2, random_state=42)
```

Train RMSE: 239,942

Test RMSE: 236,065 ✘

RMSE is an absolute measure of fit, we hence talk \$\$\$.



Train RMSE: 239,942 ✘
Test RMSE: 236,065

RMSE is an absolute measure of fit, we hence talk \$\$\$.

Dep. Variable:	price	R-squared:	0.699
Model:	OLS	Adj. R-squared:	0.699
Method:	Least Squares	F-statistic:	3134.
Date:	Thu, 17 Sep 2020	Prob (F-statistic):	0.00
Time:	09:55:15	Log-Likelihood:	-2.9442e+05
No. Observations:	21597	AIC:	5.889e+05
Df Residuals:	21580	BIC:	5.890e+05
Df Model:	16		
Covariance Type:	nonrobust		
Omnibus:	18683.039	Durbin-Watson:	1.982
Prob(Omnibus):	0.000	Jarque-Bera (JB):	2003719.883
Skew:	3.651	Prob(JB):	0.00
Kurtosis:	49.619	Cond. No.	3.03e+05

Give me the
stats



	coef	std err	t	P> t	[0.025	0.975]
Intercept	4.359e+06	1.15e+05	37.808	0.000	4.13e+06	4.59e+06
has_basement[T.1]	-1.091e+04	3215.445	-3.394	0.001	-1.72e+04	-4612.008
waterfront[T.1.0]	5.437e+05	2.04e+04	26.601	0.000	5.04e+05	5.84e+05
view[T.1.0]	9.548e+04	1.13e+04	8.436	0.000	7.33e+04	1.18e+05
view[T.2.0]	5.384e+04	6856.354	7.852	0.000	4.04e+04	6.73e+04
view[T.3.0]	1.264e+05	9346.662	13.522	0.000	1.08e+05	1.45e+05
view[T.4.0]	2.954e+05	1.42e+04	20.857	0.000	2.68e+05	3.23e+05
renovation_status[T.latley renovated]	9.92e+04	2.28e+04	4.346	0.000	5.45e+04	1.44e+05
renovation_status[T.not renovated]	-2.471e+04	1.87e+04	-1.320	0.187	-6.14e+04	1.2e+04
renovation_status[T.renovated]	-3.044e+04	2.12e+04	-1.435	0.151	-7.2e+04	1.11e+04
bedrooms	-2.721e+04	1854.485	-14.670	0.000	-3.08e+04	-2.36e+04
lat_2_seattle	-1.048e+06	1.8e+04	-58.301	0.000	-1.08e+06	-1.01e+06
yr_builtin	-2432.4269	61.366	-39.638	0.000	-2552.708	-2312.146
floors	6371.2361	3290.127	1.936	0.053	-77.657	1.28e+04
sqft_living	186.9392	3.106	60.188	0.000	180.851	193.027
grade	1.018e+05	2121.741	47.987	0.000	9.77e+04	1.06e+05
sqft_living15	11.3588	3.332	3.409	0.001	4.828	17.889

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Model Validation

Use train-split-validation and the RMSE

End. Thanks.



archiv

Thanks.



x

x





\$200,000.00

more for a
freshly
renovated
house.

ID: 8964800890

Karl's Place:



Bedrooms	3
bathrooms	3
sqft_living	4560
sqft_above	13362
c_sqft_lot15	
waterfront	0
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Renovation_status: not renovated

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Old friend, I need a new place. This whole home office thing makes me crazy. I live in Seattle, but I don't see the water. I live at ZIPCODE right now, you know the place. It's run-down at the moment.

Money is not an issue, but I want to move in ASAP.

Get back to me soon. K.

CONTENTS OF THIS TEMPLATE ✅

Here's what you'll find in this **Slidesgo** template:

1. A slide structure based on a pitch deck presentation template, which you can easily adapt to your needs. For more info on how to edit the template, please visit **Slidesgo School** or read our **FAQs**.
2. An assortment of **pictures/illustrations** that are suitable for use in the presentation can be found in the **alternative resources** slide.
3. A **thanks slide**, which you must keep so that proper credits for our design are given.
4. A **resources slide**, where you'll find links to all the elements used in the template.
5. **Instructions** for use.
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You can delete this slide when you're done editing the presentation.

OUR COMPANY ✕

MERCURY

Mercury is the closest planet to the Sun

MARS

Despite being red, Mars is actually a cold place

VENUS

Venus has a beautiful name but it's hot

JUPITER

It's the biggest planet in the Solar System

SATURN

Saturn is composed of hydrogen and helium

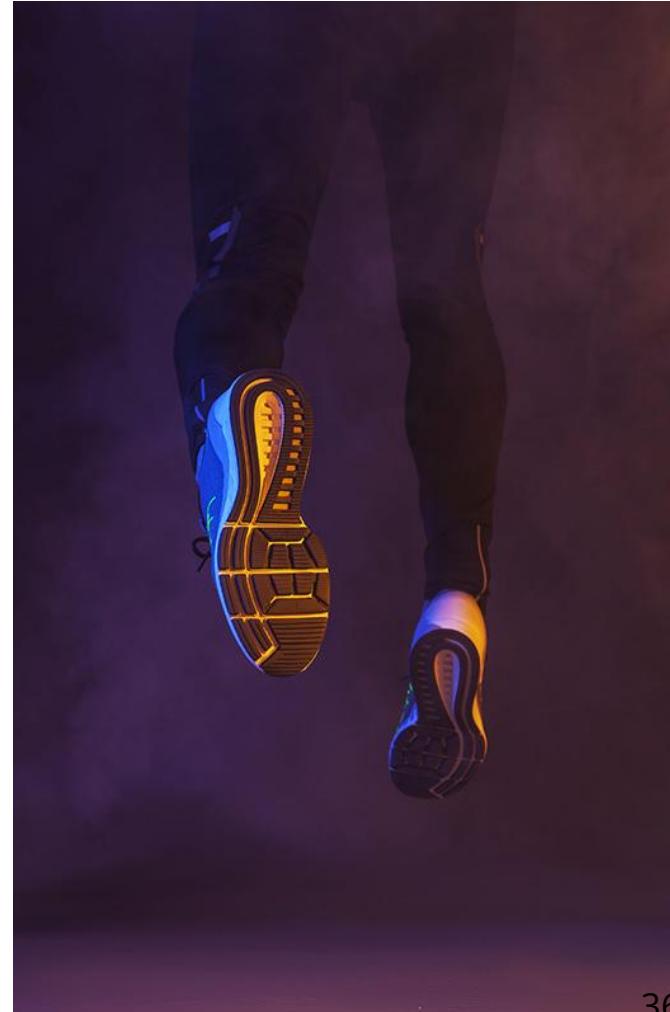
NEPTUNE

It's the farthest planet from the Sun

01 ✕

SECTION 01

Here you can add a subtitle if you need it





INTRODUCTION ✘

Do you know what helps you make your point clear? Lists like this one:

- They're simple
- You can organize your ideas clearly
- You'll never forget to buy milk!

The audience won't miss the point of your presentation

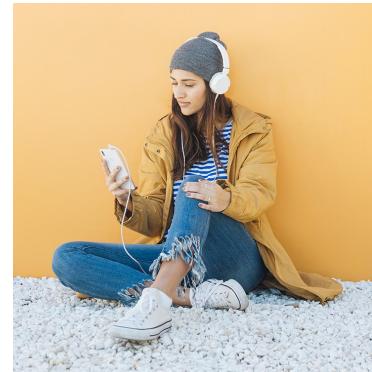
✖ OUR TEAM ✖



JANE DOE



You can use this space to
describe a team member



JOANNA SMITH



You can use this space to
describe a team member

THE PROBLEM ✕

Mercury is the closest planet to the Sun and the smallest one in the Solar System. It's only a bit larger than the Moon.



AWESOME WORDS





SOLUTION ✨

Mercury is the closest planet to the Sun and the smallest one in the Solar System. It's only a bit larger than the Moon.

THEM

Mercury is the closest to the Sun and the smallest one in the Solar System



US

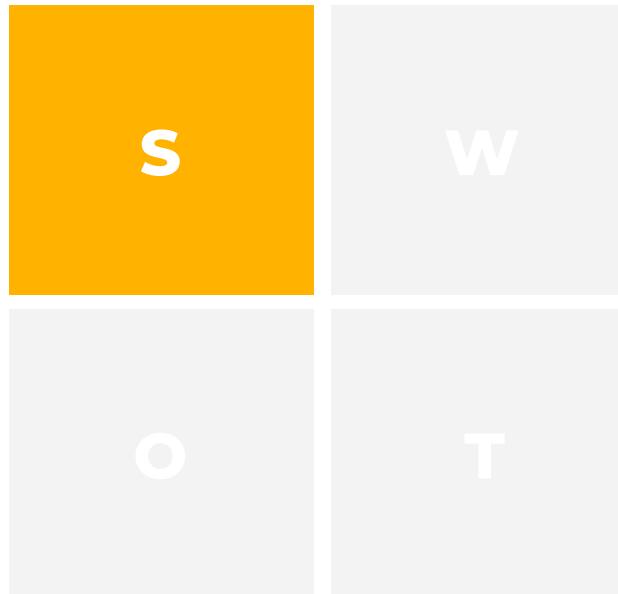
Venus has a beautiful name and is the second planet from the Sun



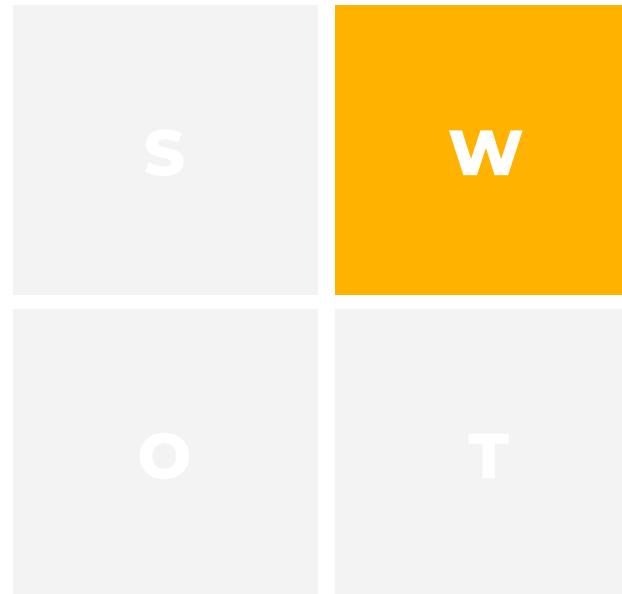
SWOT ANALYSIS ✕

✖ STRENGTHS

Venus has a beautiful name, but it's hot



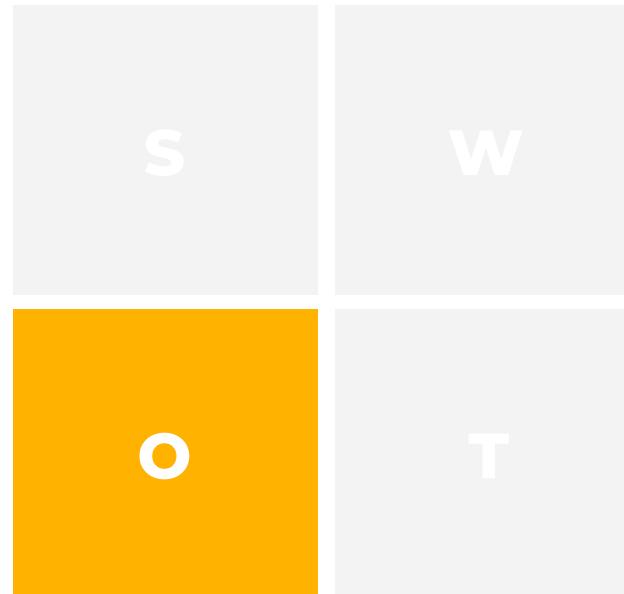
SWOT ANALYSIS ✕



WEAKNESSES ✕

Neptune is the farthest planet from the Sun

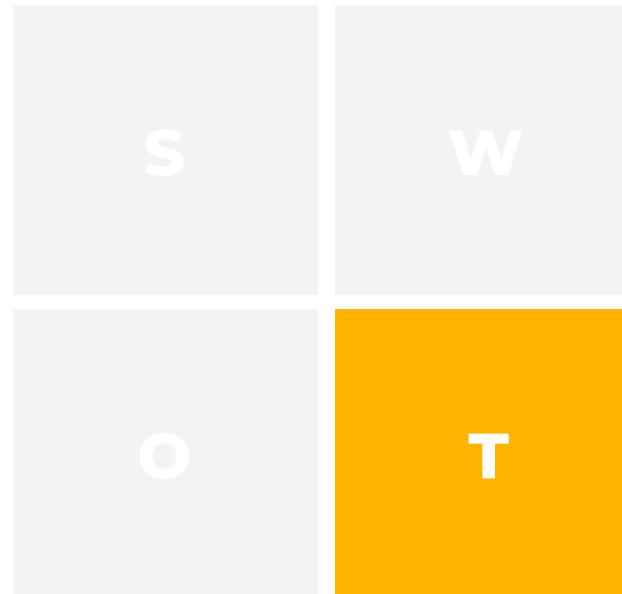
SWOT ANALYSIS ✕



✖ OPPORTUNITIES

Mercury is the closest planet to the sun

SWOT ANALYSIS ✕

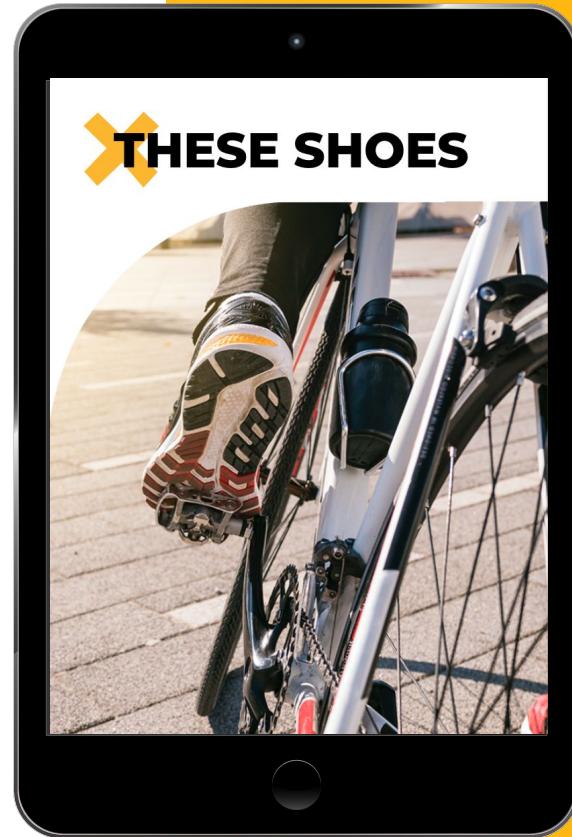


THREATS ✕

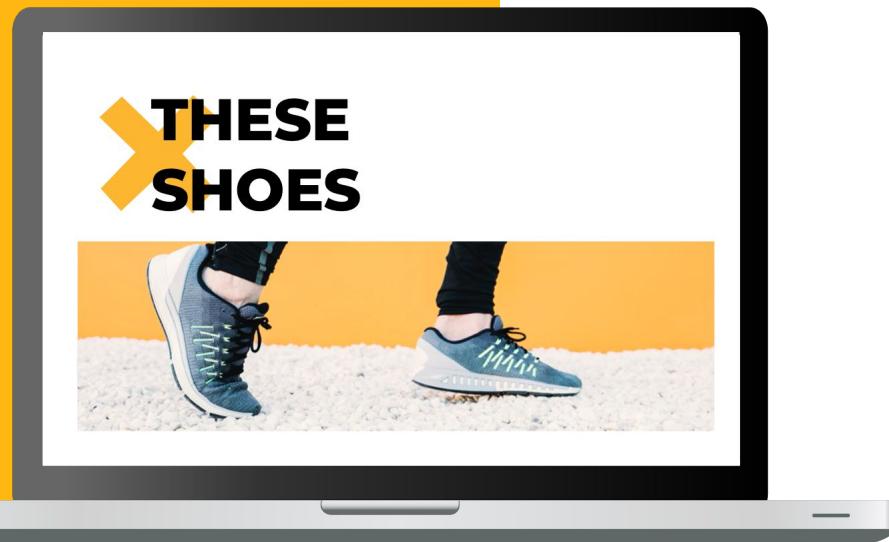
Despite being red, Mars
is a cold place

PRODUCT OVERVIEW ✕

You can replace the image on the screen with your own work. Right-click on it and then choose “Replace image” so you can add yours



PRODUCT DEMO ✘



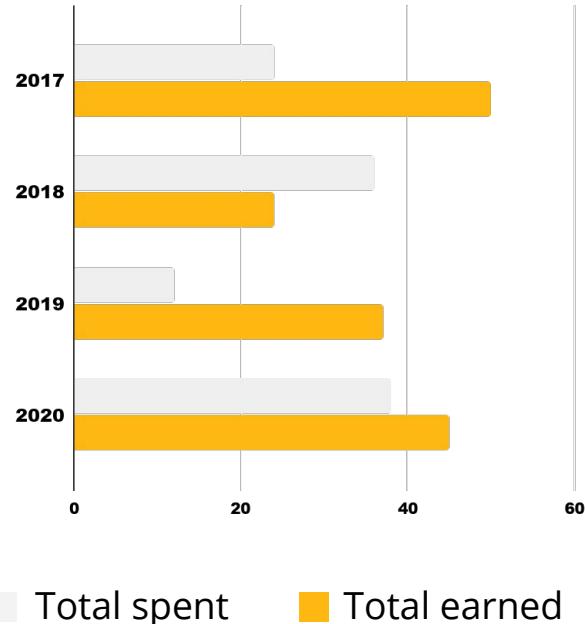
You can replace the image on the screen with your own work. Right-click on it and then choose “Replace image” so you can add yours

OUR PLANS ✨

	VENUS	SATURN	MARS	
BASIC	yes	no	no	\$50
CUSTOM	yes	yes	no	\$100
COUTURE	yes	yes	yes	\$150



TRACTION ✕



50%

Mars is actually a cold place

35%

Venus has a beautiful name



40,000,000 ×

Big numbers catch your audience's attention easily

CASE STUDY ✕

01

Venus has a beautiful name but it's terribly hot

02

Neptune is the farthest planet from the Sun

03

Mercury is the closest planet to the Sun

04

Despite being red, Mars is actually a cold place





REVIEWS ✎



Mercury is the closest planet
to the Sun

—Jane Doe



Venus has a beautiful name
but it's terribly hot

—John Smith



Despite being red, Mars is
actually a cold place

—Kate Duff

X

**AN IMAGE IS
WORTH A
THOUSAND
WORDS**



AWARDS ✕



2016

AWARD 01

Despite being red, Mars
is actually a cold place

2018

AWARD 02

Mercury is the closest
planet to the Sun

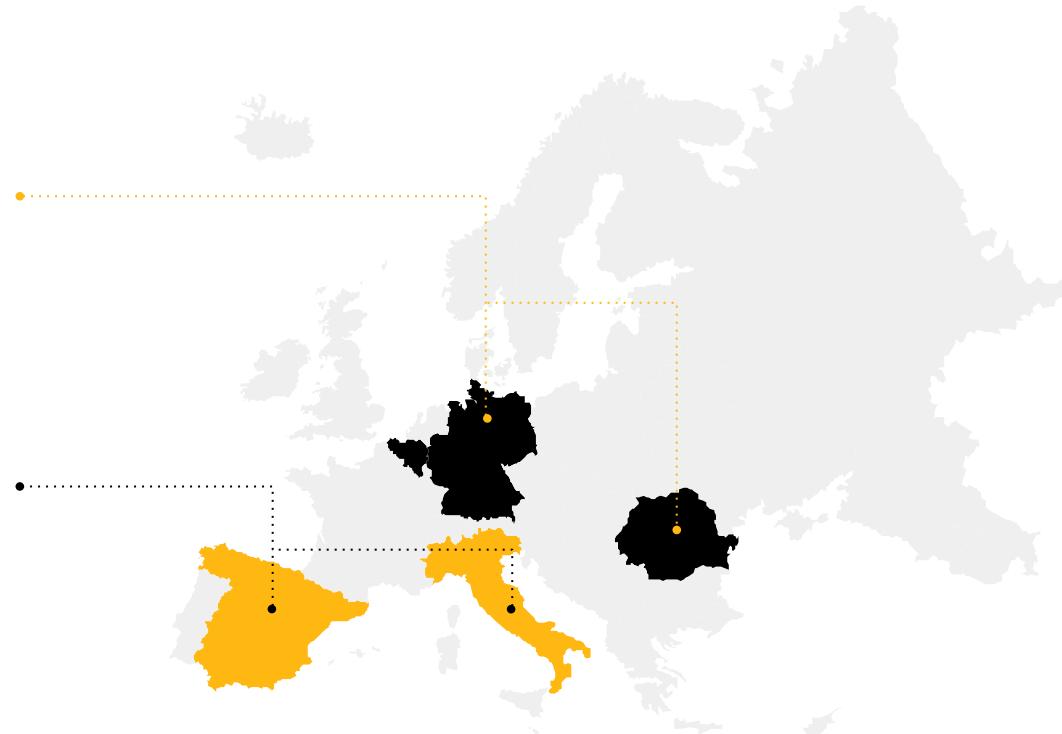
MARKET SIZE ✕

MARS

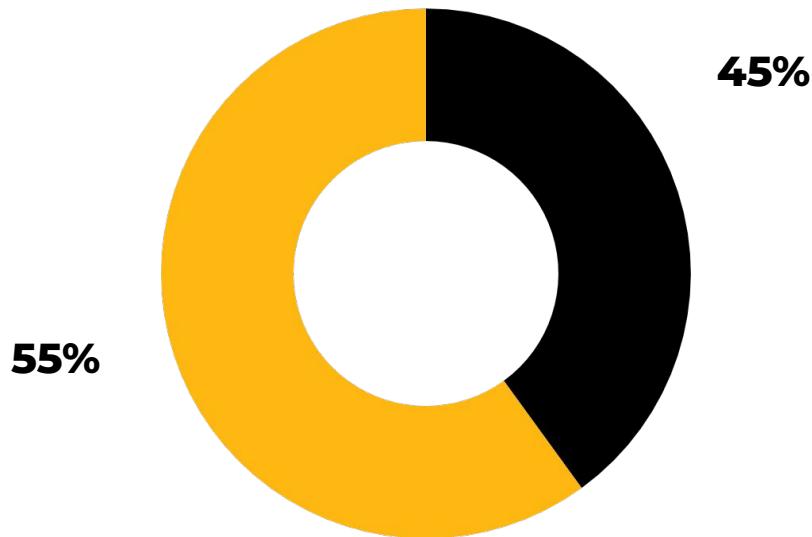
Despite being red, Mars is actually a cold place

VENUS

Venus has a beautiful name, but it's really hot



TARGET X



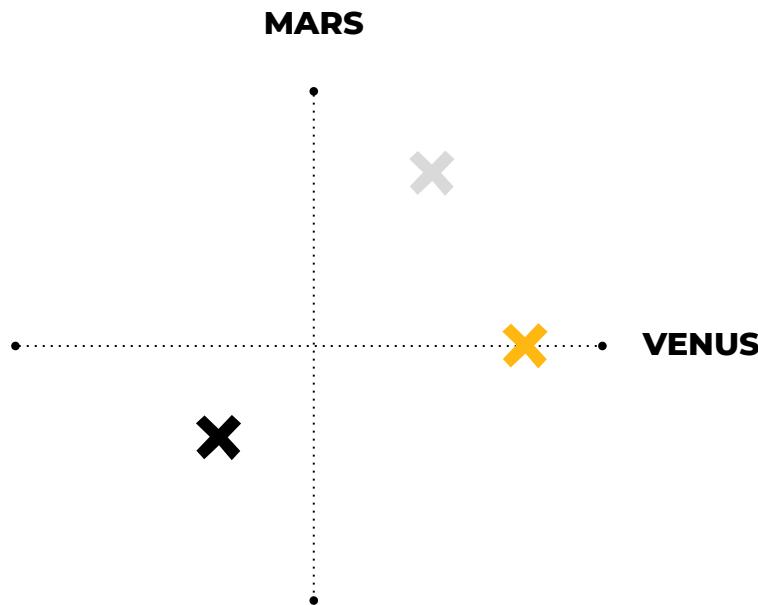
■ MARS

Despite being red, Mars is a cold place

■ VENUS

Venus has a beautiful name but it's really hot

COMPETITORS ✕



COMPETITOR 01

Despite being red, Mars is actually a cold place

COMPETITOR 02

Mercury is the closest planet to the sun

COMPETITOR 03

Venus has a beautiful name, but it's hot

BUSINESS MODEL ✕



KEY PARTNERS

Despite being red, Mars is actually a cold place

VALUE PROPOSITION

Mercury is the closest planet to the sun

KEY RESOURCES

Venus has a beautiful name, but it's hot

TIMING ✕

01



Venus has a
beautiful name
but it's terribly hot

02



Neptune is the
farthest planet
from the Sun

03



Mercury is the
closest planet
to the Sun

04



Despite being red,
Mars is actually a
cold place

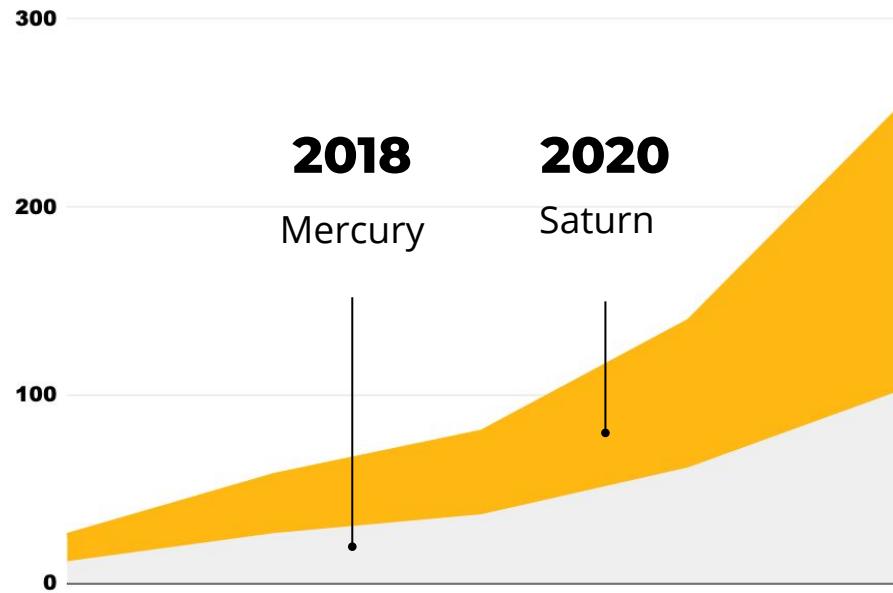
PREDICTED GROWTH ✕

MARS

Despite being red, Mars is a cold place

VENUS

Venus has a beautiful name but it's really hot





✖ INVESTMENT

06% ✖

Despite being red, Mars is actually a cold place



25% ✖

Venus has a beautiful name, but it's terribly hot

69% ✖

Neptune is the farthest planet from the Sun



THANKS

Do you have any questions?

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ALTERNATIVE RESOURCES ✕

PHOTOS

- Low section of fitness couple jumping in the air at outdoors
- Close-up woman holding small shoe
- Sport equipment
- Woman tying her shoes in next to a building
- Side view male basketball player tying shoe laces



RESOURCES ✕

VECTORS

- Black ipad
- Responsive web design technology

PHOTOS

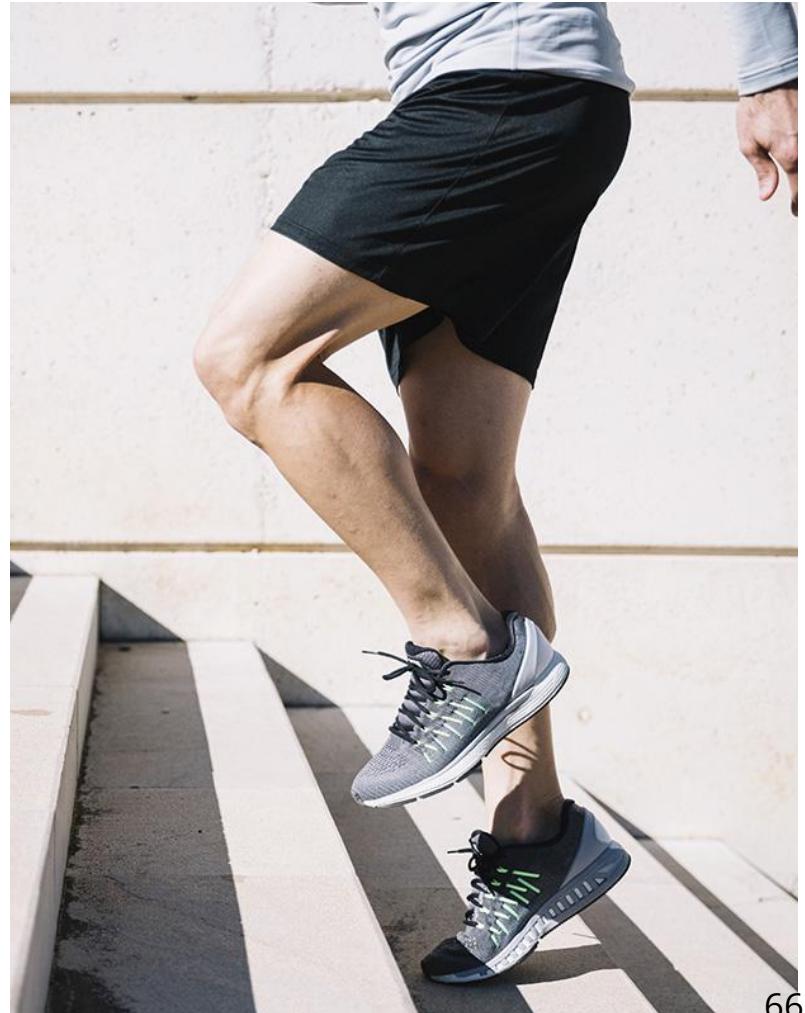
- Man balancing skateboard on railing
- Close-up woman shoes for adventure
- Woman sitting rug using smartphone listening music
- Close-up female tying shoelaces
- Top view arrow asphalt shoes
- Crop person running on yellow background
- Medium shot of man balancing on skateboard
- Crop legs leaping in smoke



RESOURCES ✕

PHOTOS

- Young woman stretching at the street
- Sport equipment
- Male cyclist's foot on bicycle pedal riding bike at outdoors
- Crop man hopping upstairs
- Sneakers and sport watch with copy space
- Anonymous man in sportswear doing crouch start
- Anonymous woman performing leaps
- Crop legs sneakers running
- Crop man doing walking exercise on steps
- Crop woman leaping training
- Crop woman sitting on longboard



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#000000



#f3f3f3



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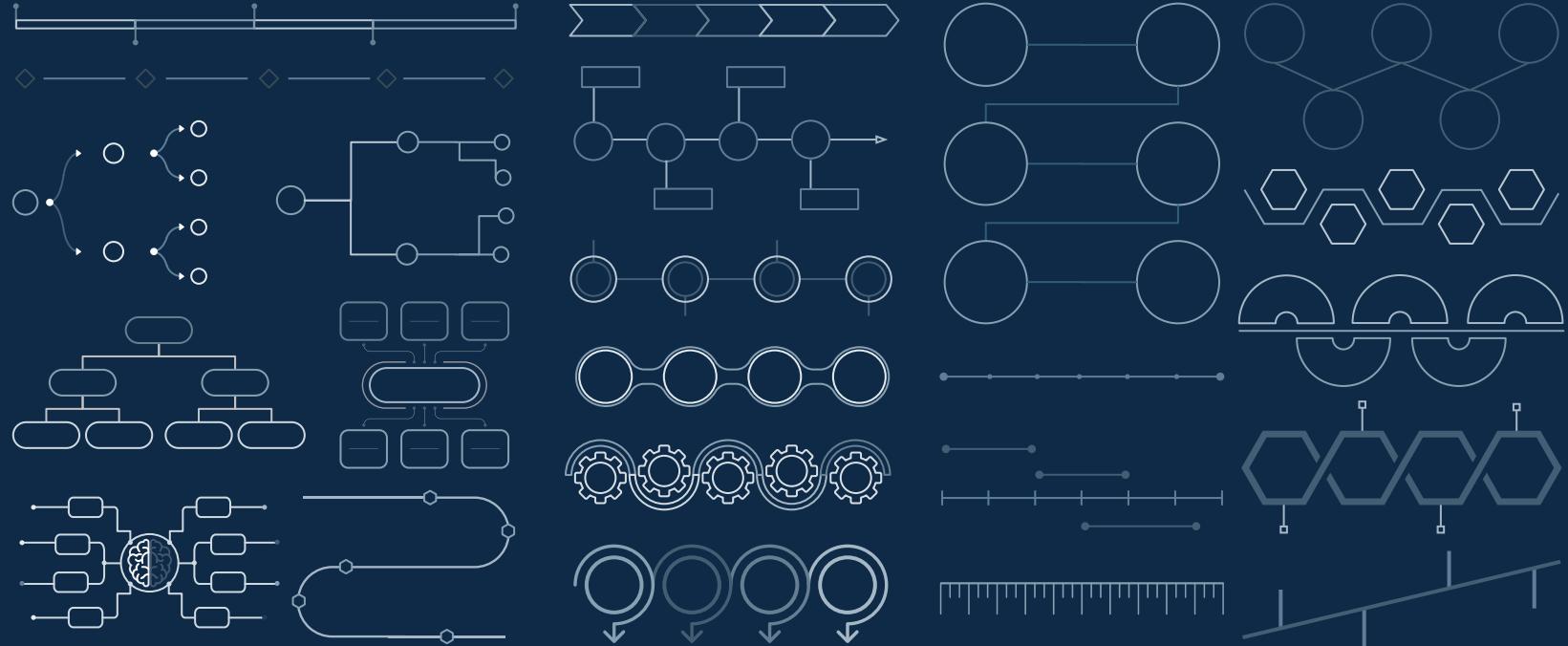
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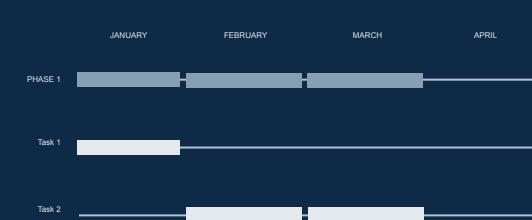
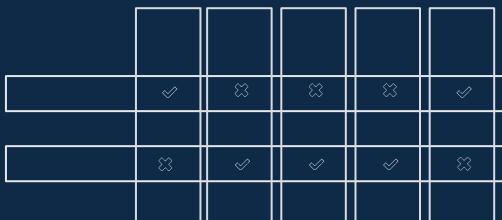
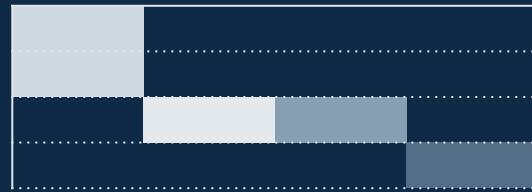
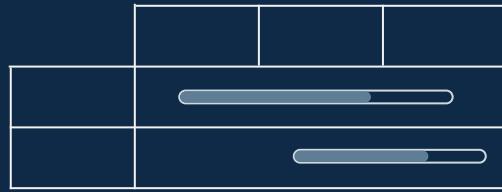
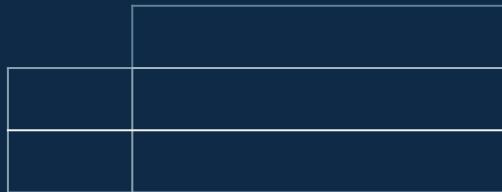
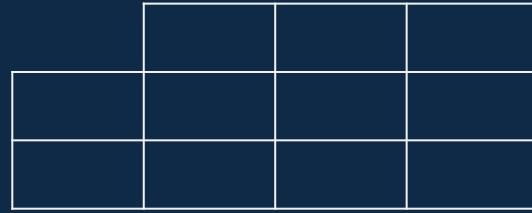
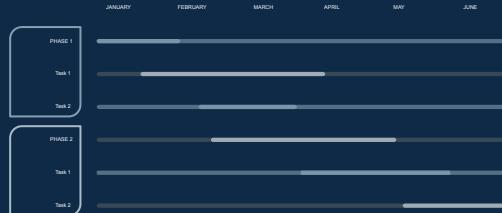
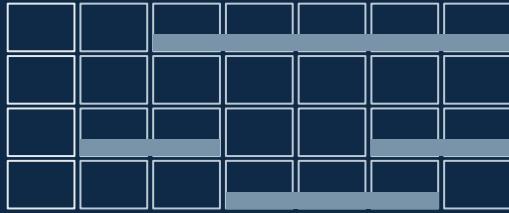
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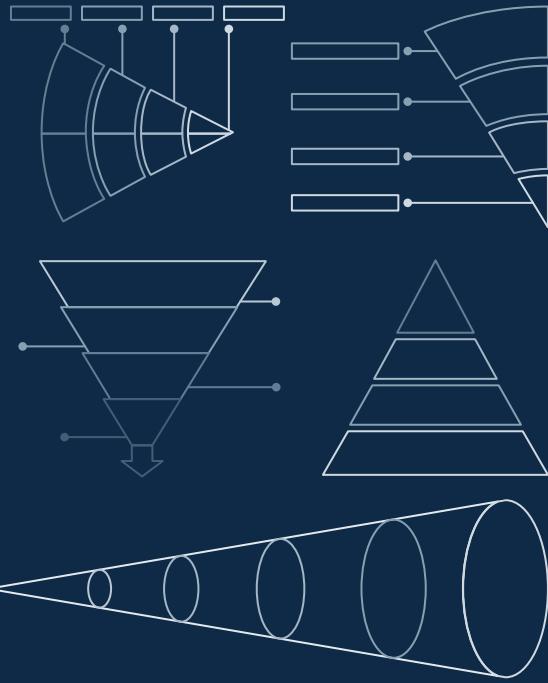
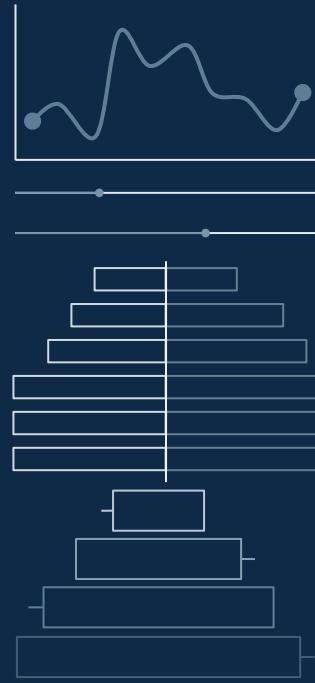
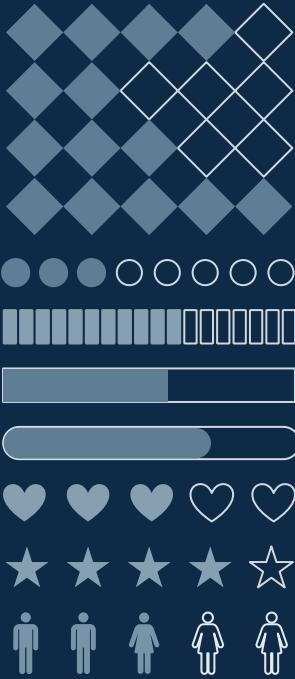
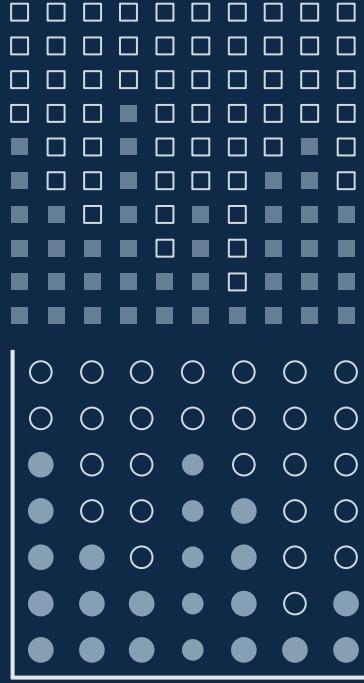












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