



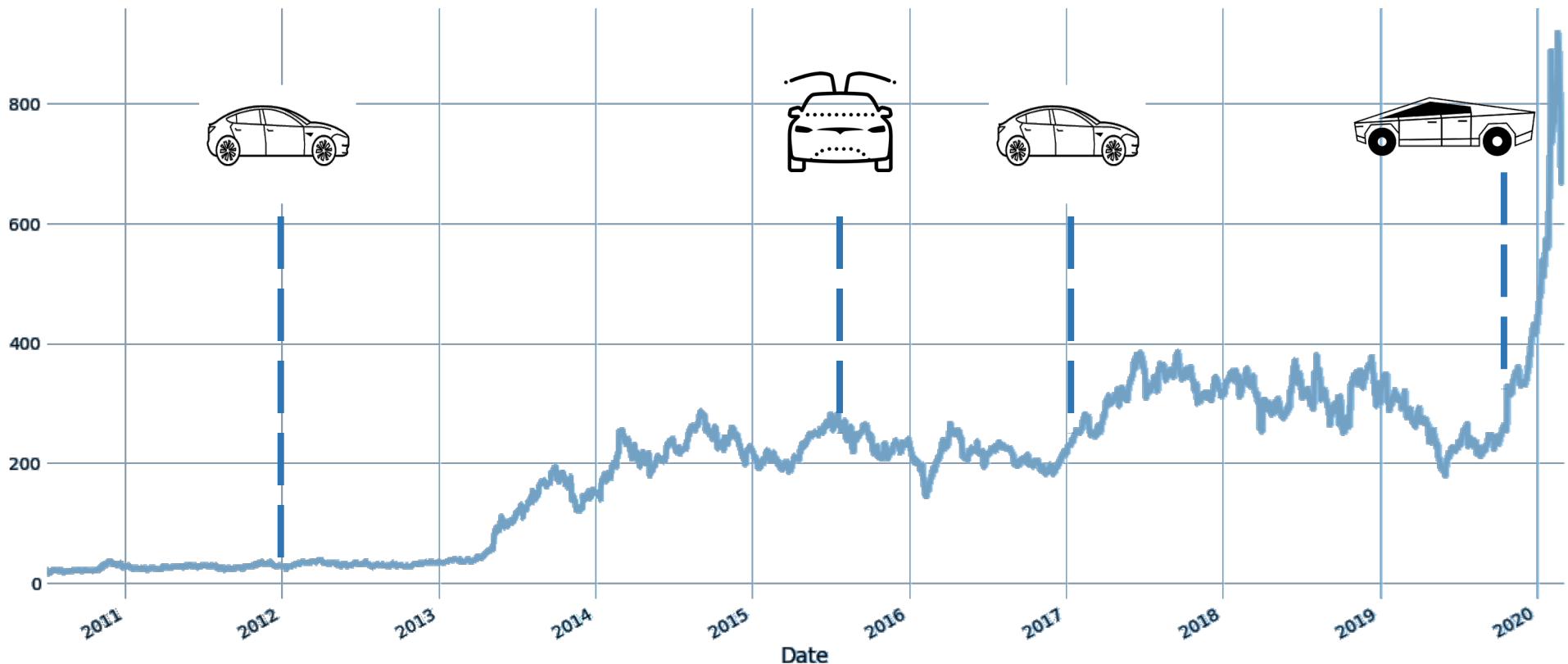
TSLA stocks

Past analysis &
future prediction



TESLA

How come ?



PRODUCED: 2008-2012
EPA RANGE: 231MI - 244MI (393KM)
0-60MPH IN: 3.7s - 3.9s
MSRP PRICE: \$109K - \$128K

PRODUCED: 2012
EPA RANGE: 139MI - 335MI (539KM)
0-60MPH IN: 2.27s - 6.5s
MSRP PRICE: \$57K - \$134K

PRODUCED: 2015
EPA RANGE: 200MI - 289MI (465KM)
0-60MPH IN: 2.9s - 6s
MSRP PRICE: \$74K - \$135K

PRODUCED: 2017
EPA RANGE: 220MI - 310MI (500KM)
0-60MPH IN: 5.1s - 5.6s
MSRP PRICE: \$35K - \$44K

ROADSTER

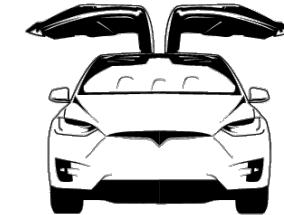
MODEL S

MODEL X

MODEL 3



3 chapter study



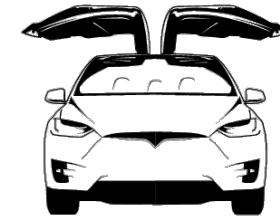
Twitter activity
& content
analysis

Stock market
analysis &
prediction

Car production
analysis &
prediction



3 Main Notebooks



Musk Twitter
activity &
content analysis

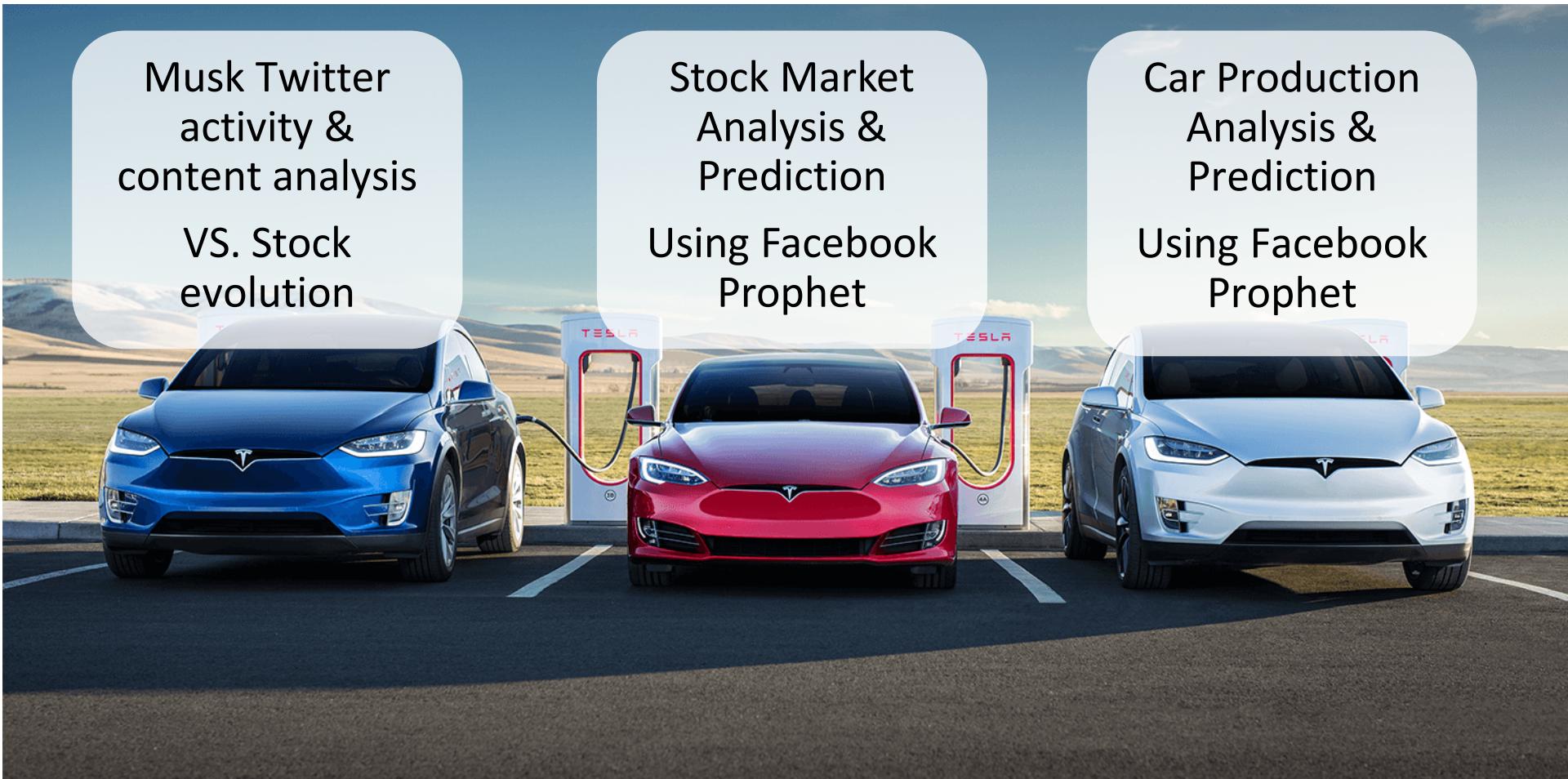
VS. Stock
evolution

Stock Market
Analysis &
Prediction

Using Facebook
Prophet

Car Production
Analysis &
Prediction

Using Facebook
Prophet





Part 1

Twitter Quantitative & Content Analysis



32M followers
(March 2020)

9K tweets

1K tweets
mentioning Tesla

Elon & Twitter : The Good...



Elon Musk  @elonmusk

Am considering taking Tesla private at \$420. Funding secured.

9:48 AM - 7 Aug 2018

6,749 Retweets 31,392 Likes

Tweet your reply

Elon Musk  @elonmusk · 10m
Shareholders could either sell at 420 or hold shares & go private

355 445 2.2K

Elon Musk  @elonmusk · Feb 19, 2019
Replying to @elonmusk
Tesla made 0 cars in 2011, but will make around 500k in 2019

Elon Musk  @elonmusk
Meant to say annualized production rate at end of 2019 probably around 500k, ie 10k cars/week. Deliveries for year still estimated to be about 400k.

52.2K 9:41 PM - Feb 19, 2019

Elon Musk  @elonmusk · 8h
Replies to @elonmusk
Looks like we can reach 20,000 Model 3 cars per month in Dec

668 2.9K 16K

Elon Musk  @elonmusk · 8h
Replies to @elonmusk
Handover party for first 30 customer Model 3's on the 28th! Production grows exponentially, so Aug should be 100 cars and Sept above 1500.

439 2.7K 13K

Elon Musk  @elonmusk · 8h
Model 3 passed all regulatory requirements for production two weeks ahead of schedule. Expecting to complete SN1 on Friday

863 6.3K 30K

Elon Musk  @elonmusk
146k Cybertruck orders so far, with 42% choosing dual, 41% tri & 17% single motor

12:54 PM - Nov 23, 2019 · Twitter for iPhone

22.8K Retweets 259.7K Likes

Elon Musk  @elonmusk · 23h
Replies to @elonmusk
With no advertising & no paid endorsement

2.7K 5.7K 131.7K

Elon & Twitter : The Bad & the Ugly



⤳ Blank. Retweeted

Elon Musk  @elonmusk · 15h
💕🍜 ramen is sooo good🍜💕

5,878 ⤵ 55.1K



Elon Musk  @elonmusk
Ya... Tesla is cool and all but I wish I created Minecraft. Sorry, mom.

12:37 PM - 24 Jul 2019

185,033 Retweets 812,047 Likes

⤳ 29K ⤵ 185K ❤️ 812K ⏷

Elon Musk  @elonmusk
Nuke Mars!
21:23 - 15 ago. 2019

33.430 Retweets 255.746 Me gusta

 33K  256K

elonmusk · 16 ago.
↓ 2,5K  84K

elonmusk · 16 ago.
a hot date ...? 😊 @4thFromOurStar
↓ 1,7K  38K

Elon Musk  @elonmusk · 16 ago.
Trust me, it will be 🔥🔥

⤳ 1,0K  35K



Tesla Goes Bankrupt
Palo Alto, California, April 1, 2018 -- Despite intense efforts to raise money, including a last-ditch mass sale of Easter Eggs, we are sad to report that Tesla has gone completely and totally bankrupt. So bankrupt, you can't believe it.



Elon Musk  @elonmusk

Elon was found passed out against a Tesla Model 3, surrounded by "Teslaquila" bottles, the tracks of dried tears still visible on his cheeks.

This is not a forward-looking statement, because, obviously, what's the point?



Hypothesis

Musk's tweets mentioning
Tesla may have strong
impact on Tesla Stocks ?

Tweets generating strong
interaction rate have big
impact on Stocks?

Hypothesis



Negative & controversial
contents

=

Sudden stock drop

Tweets with positive
business contents

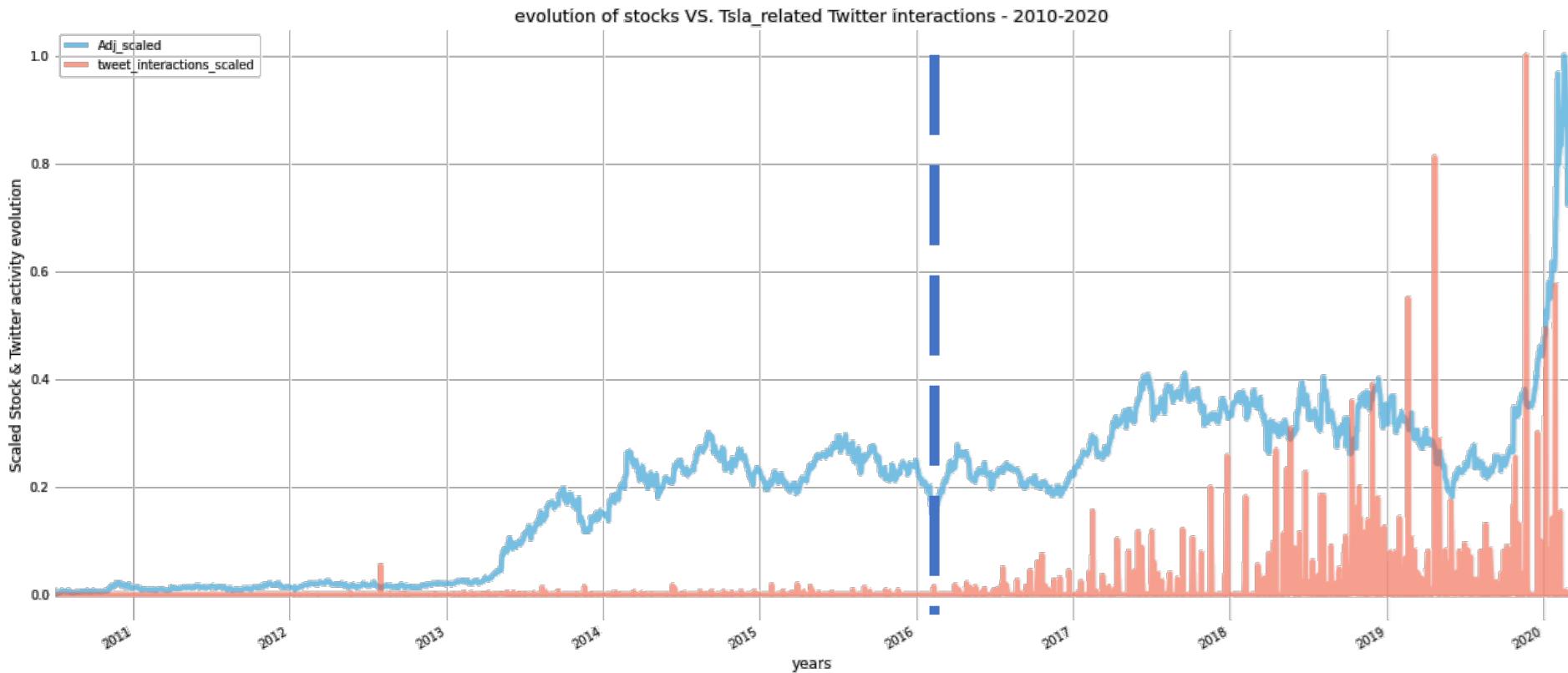
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Tesla stock rise

2010– 2020 Stock VS. Twitter

No clear correlation between stocks & Twitter activity

Starting 2016 onwards, more correlation ?



Focus on 2018 – 2020 period

All most influent tweets in
2018-2020

Isolated phenomes but
hard to generalize



Positive content tweets

CyberTruck launch

 **Elon Musk**  @elonmusk

146k Cybertruck orders so far, with 42% choosing dual, 41% tri & 17% single motor

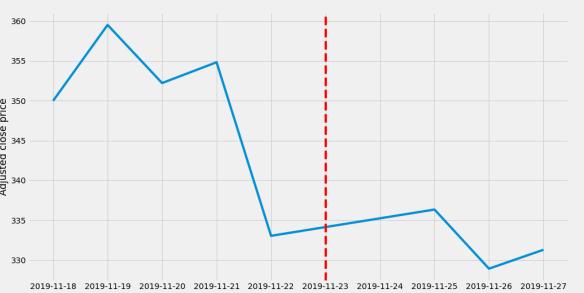
12:54 PM · Nov 23, 2019 · Twitter for iPhone

21.7K Retweets 245K Likes

 **Elon Musk**  @elonmusk · 20h
Replying to @elonmusk
With no advertising & no paid endorsement

2.6K 5.6K 125.6K



Model 3 launch

 **Elon Musk**  @elonmusk
Just released lower cost, mid-range Tesla Model 3 & super simple new order page Tesla.com/3

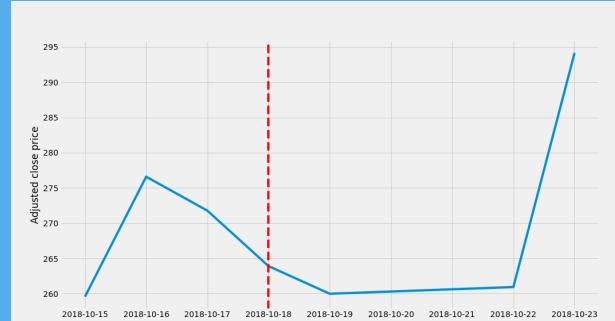


 **Elon Musk**  @elonmusk
Amazing work by Tesla team. Built entire new general assembly line in 3 weeks w minimal resources. Love u guys so much! Pic of 1st Model 3 dual motor performance coming off the line ...


Design Your Model 3 | Te
Design and order your Tes about lease, loan and cast
tesla.com

47.6K 12:10 AM - Oct 15

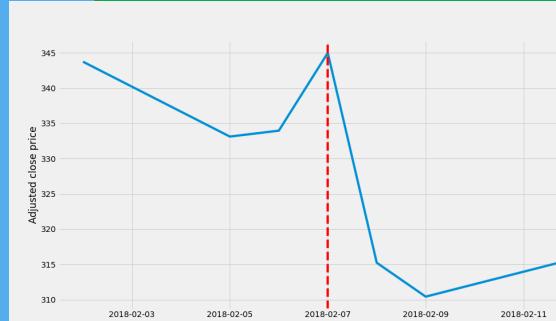




StarMan

 **Elon Musk**  @elonmusk · 7 févr. 2018
Last pic of Starman in Roadster on its journey to Mars orbit and then the Asteroid Belt instagram.com/p/Be6VZEzgAEk/

4,6 k 21,7 k 101,7 k





Negative content tweets

Elon Musk @elonmusk

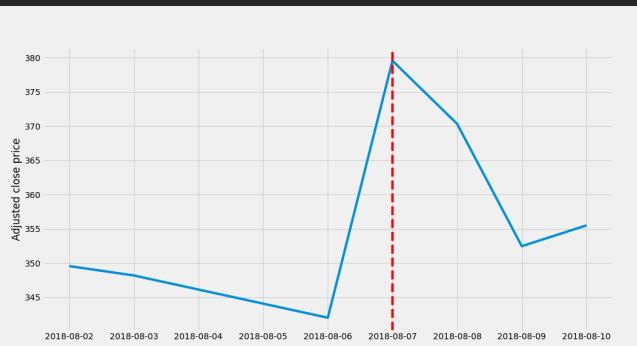
Following

Am considering taking Tesla private at \$420. Funding secured.

12:48 PM - 7 Aug 2018

466 Retweets 1,726 Likes

300 466 1.7K



Elon Musk @elonmusk

Tesla Goes Bankrupt

Palo Alto, California, April 1, 2018 -- Despite intense efforts to raise money, including a last-ditch mass sale of Easter Eggs, we are sad to report that Tesla has gone completely and totally bankrupt. So bankrupt, you can't believe it.

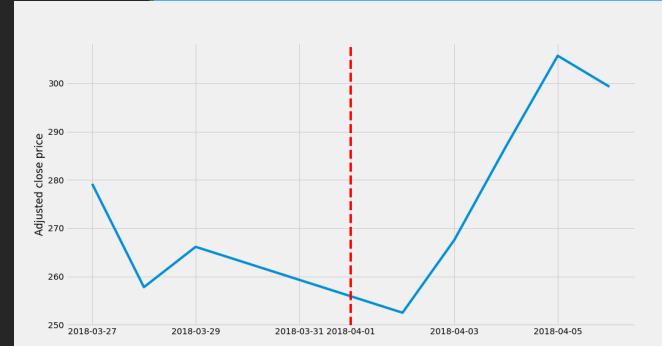
Traduire le Tweet

12:02 AM · 2 avr. 2018 · Twitter for iPhone

Elon Musk @elonmusk

Elon was found passed out against a Tesla Model 3, surrounded by "Teslaquila" bottles, the tracks of dried tears still visible on his cheeks.

This is not a forward-looking statement, because, obviously, what's the point?



Conclusion

Musk's tweets mentioning Tesla may have strong impact on Tesla Stocks ?

Tweets generating strong interaction rate have big impact on Stocks?

Specific cases in 2018 may be analysed so but hard to generalise

Growth in interaction rate may be only due to organic growth of fanbase ?
(Need to be able to measure follower base evolution)

Part 2

Stock Analysis

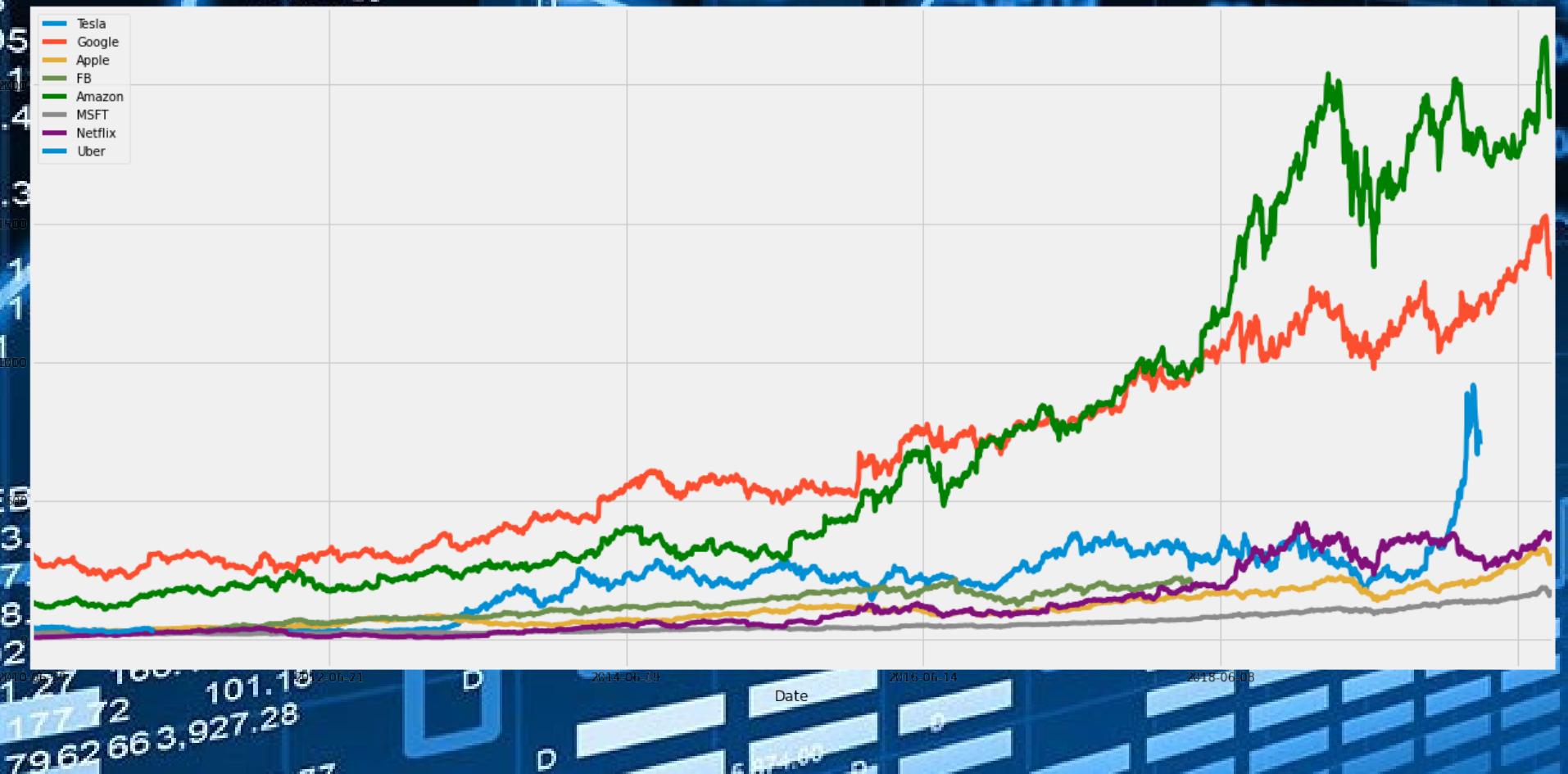


Hypothesis

Strong correlation between
NASDAQ company values &
Tesla stocks

Facebook Prophet prediction
should predict steady growth
for the 2020-2022 period

Strong Correlation between all US Tech company stocks

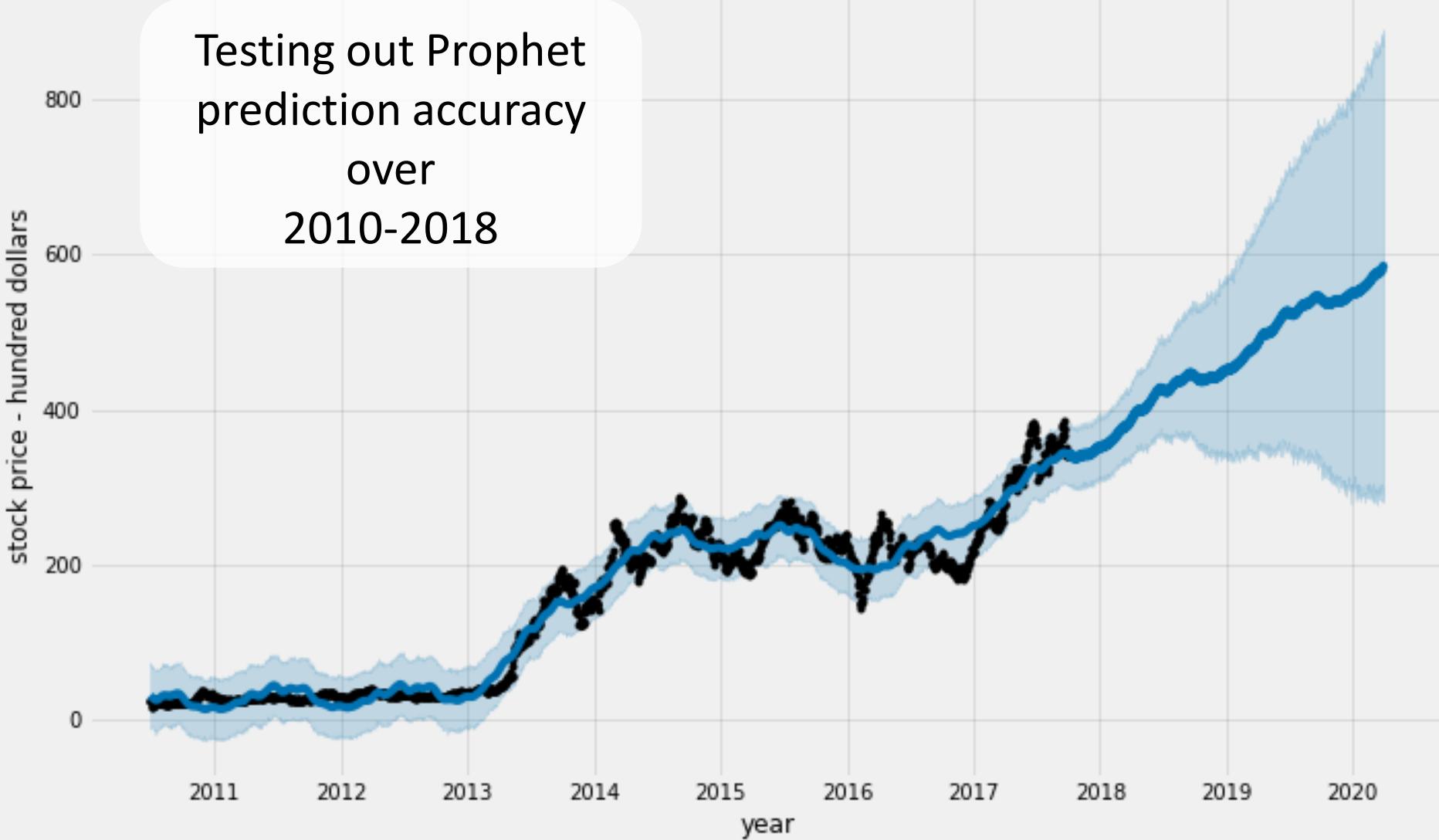


Strong Correlation between all US Tech company stocks

Tesla_Adj_Close	1	0.86	0.84	0.78	0.75	0.78	0.75	-0.081
Google_Adj_Close	0.86	1	0.95	0.97	0.96	0.95	0.94	-0.39
Apple_Adj_Close	0.84	0.95	1	0.89	0.94	0.96	0.91	-0.41
FB_Adj_Close	0.78	0.97	0.89	1	0.91	0.89	0.9	-0.018
Amazon_Adj_Close	0.75	0.96	0.94	0.91	1	0.97	0.98	0.59
Microsoft_Adj_Close	0.78	0.95	0.96	0.89	0.97	1	0.95	-0.21
Netflix_Adj_Close	0.75	0.94	0.91	0.9	0.98	0.95	1	0.68
UBER_Adj_Close	-0.081	-0.39	-0.41	-0.018	0.59	-0.21	0.68	1
	Tesla_Adj_Close	Google_Adj_Close	Apple_Adj_Close	FB_Adj_Close	Amazon_Adj_Close	Microsoft_Adj_Close	Netflix_Adj_Close	UBER_Adj_Close

Facebook Prophet prediction for 2019-2020

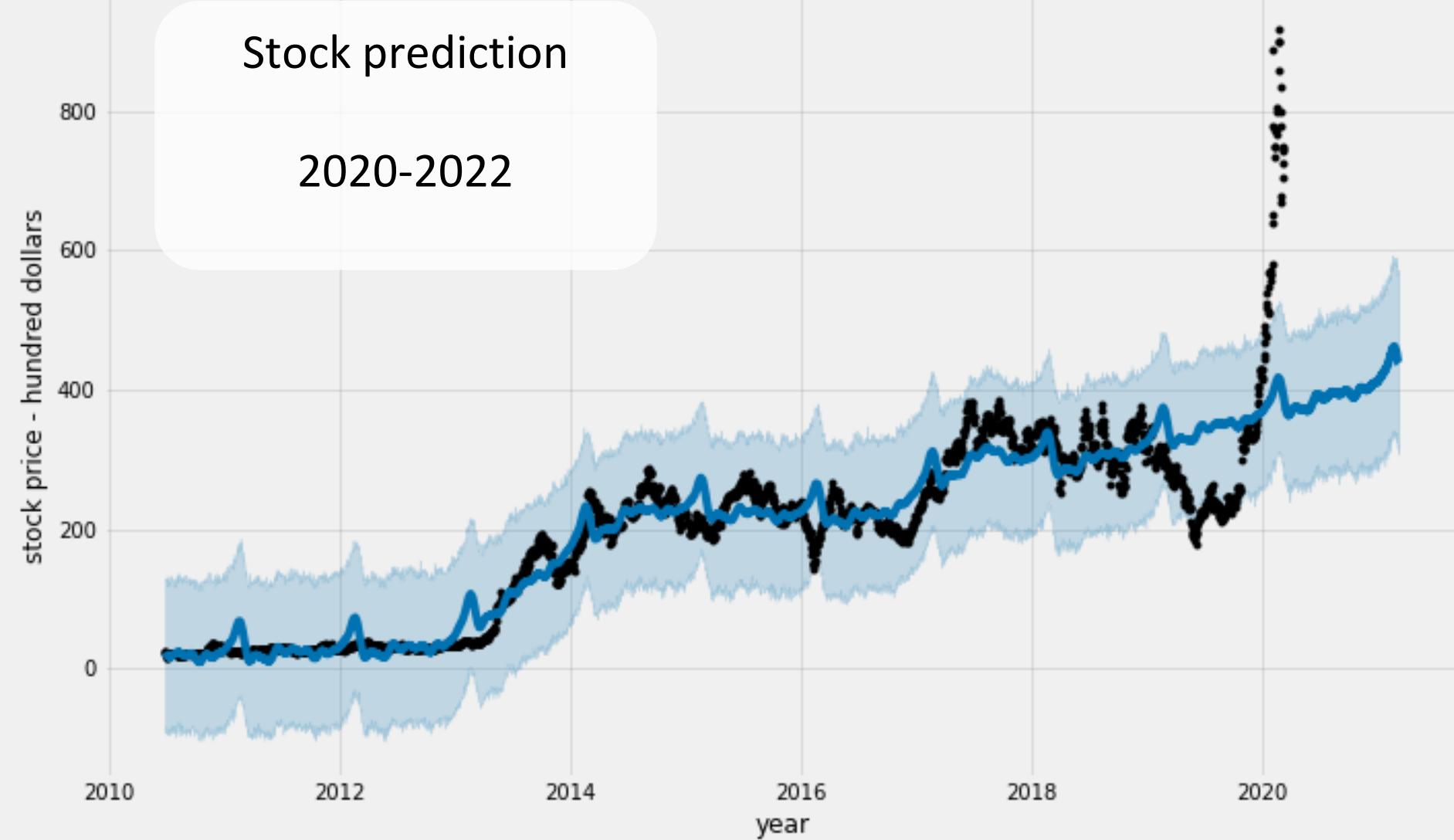
Testing out Prophet
prediction accuracy
over
2010-2018



Facebook Prophet prediction for 2020-2022

Stock prediction

2020-2022



A BRIEF HISTORY OF TESLA MOTORS

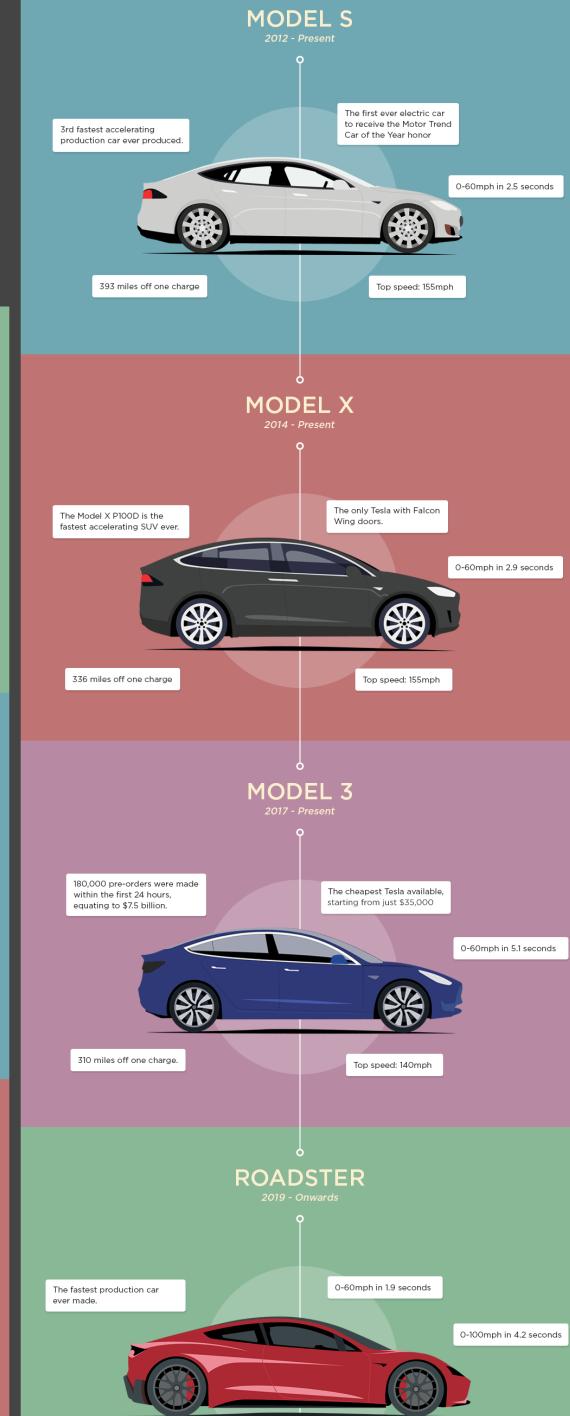
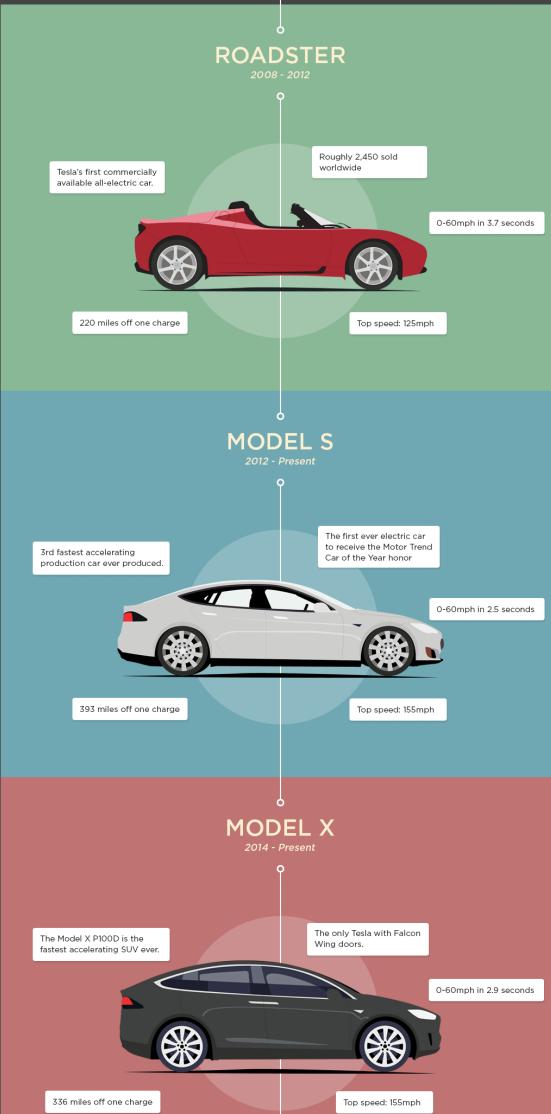
LOOKING BACK AT EVERY TESLA MODEL TO DATE



TESLA

Part 3

Car production



Hypothesis

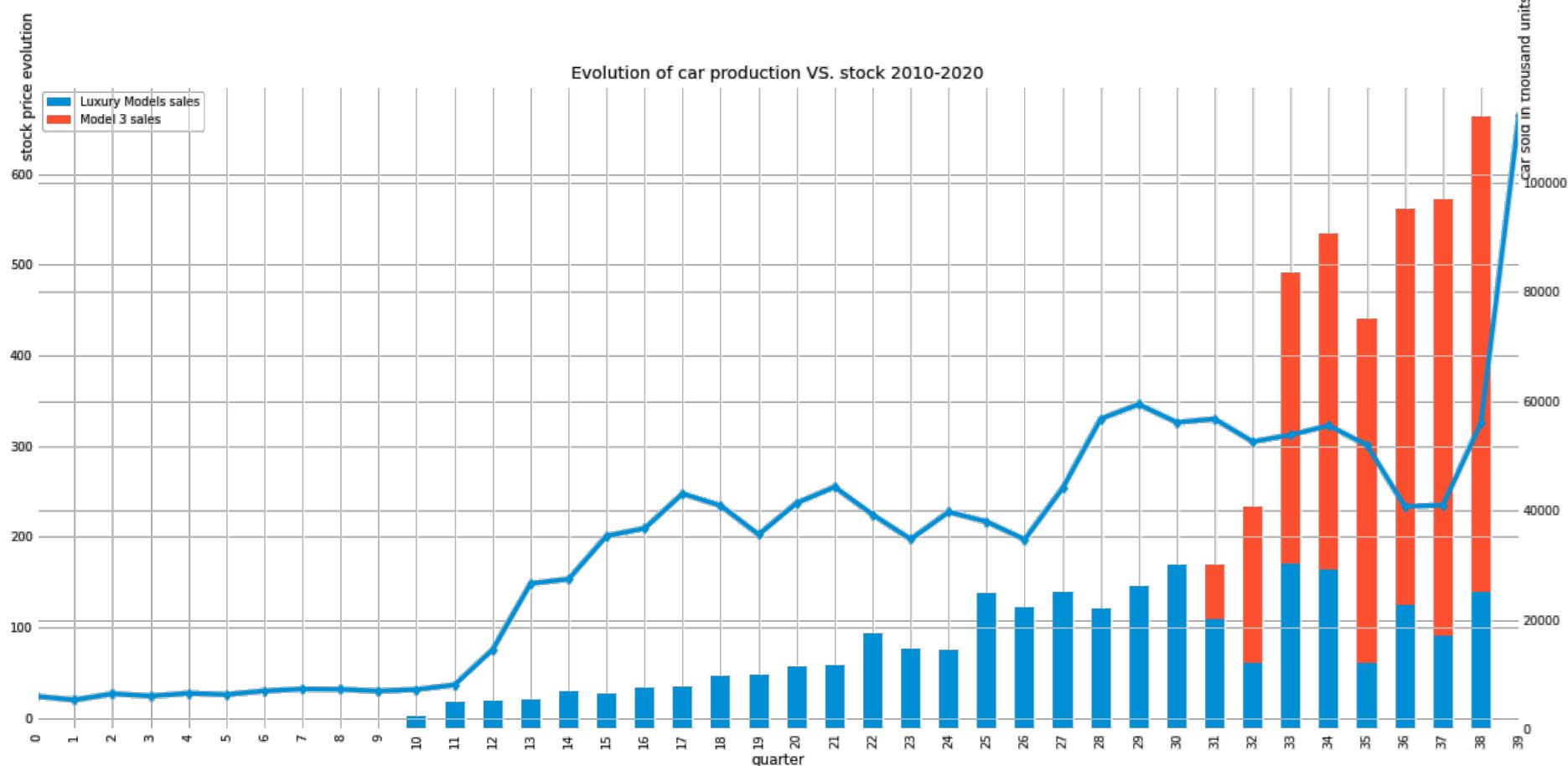
Strong correlation between
car production & Tesla stock
evolution

Launch of Model 3
Production in 2017 should
have major impact over the
stocks

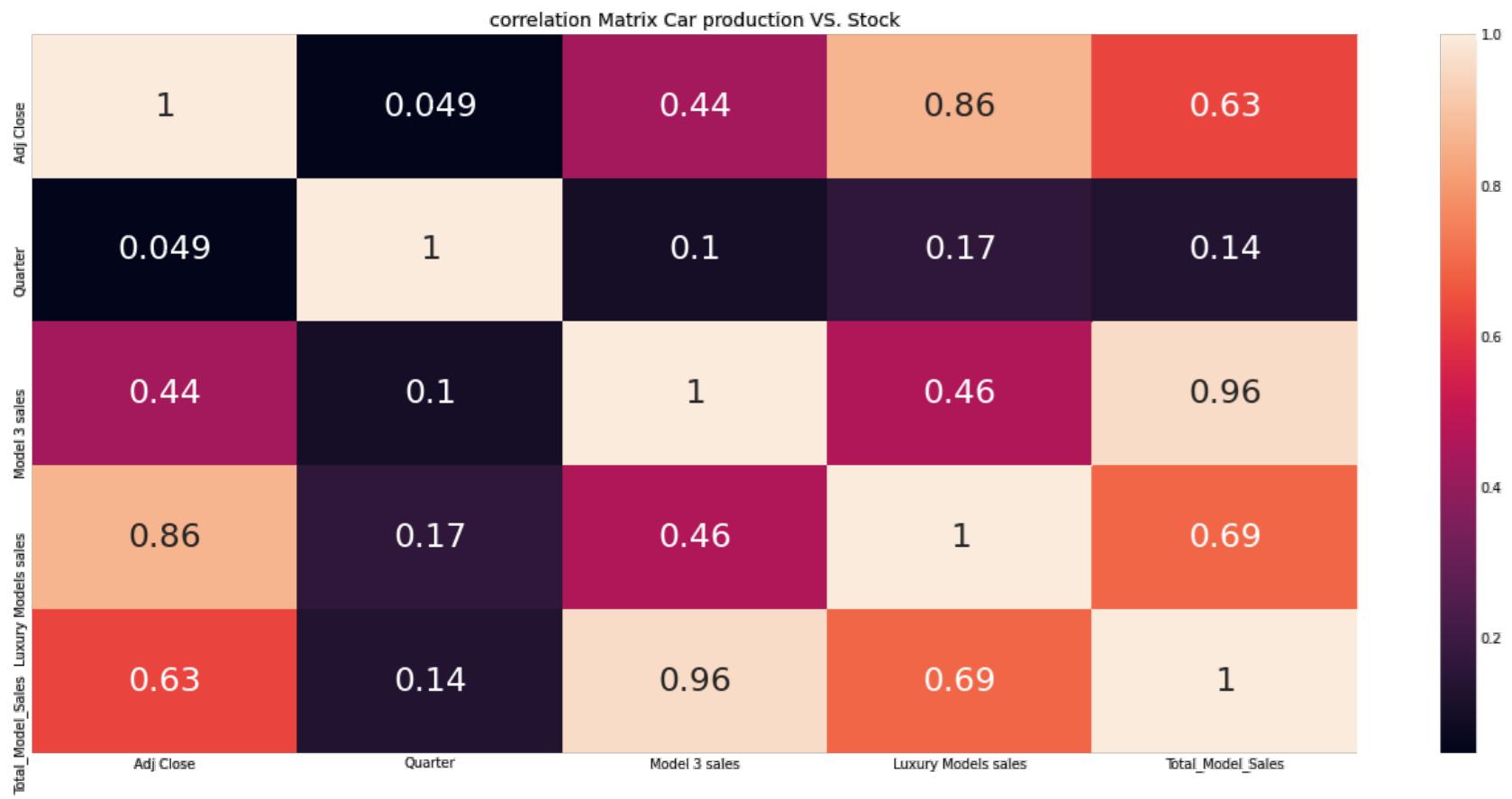
Car production VS. stock prices

Strong correlation between stocks & car production

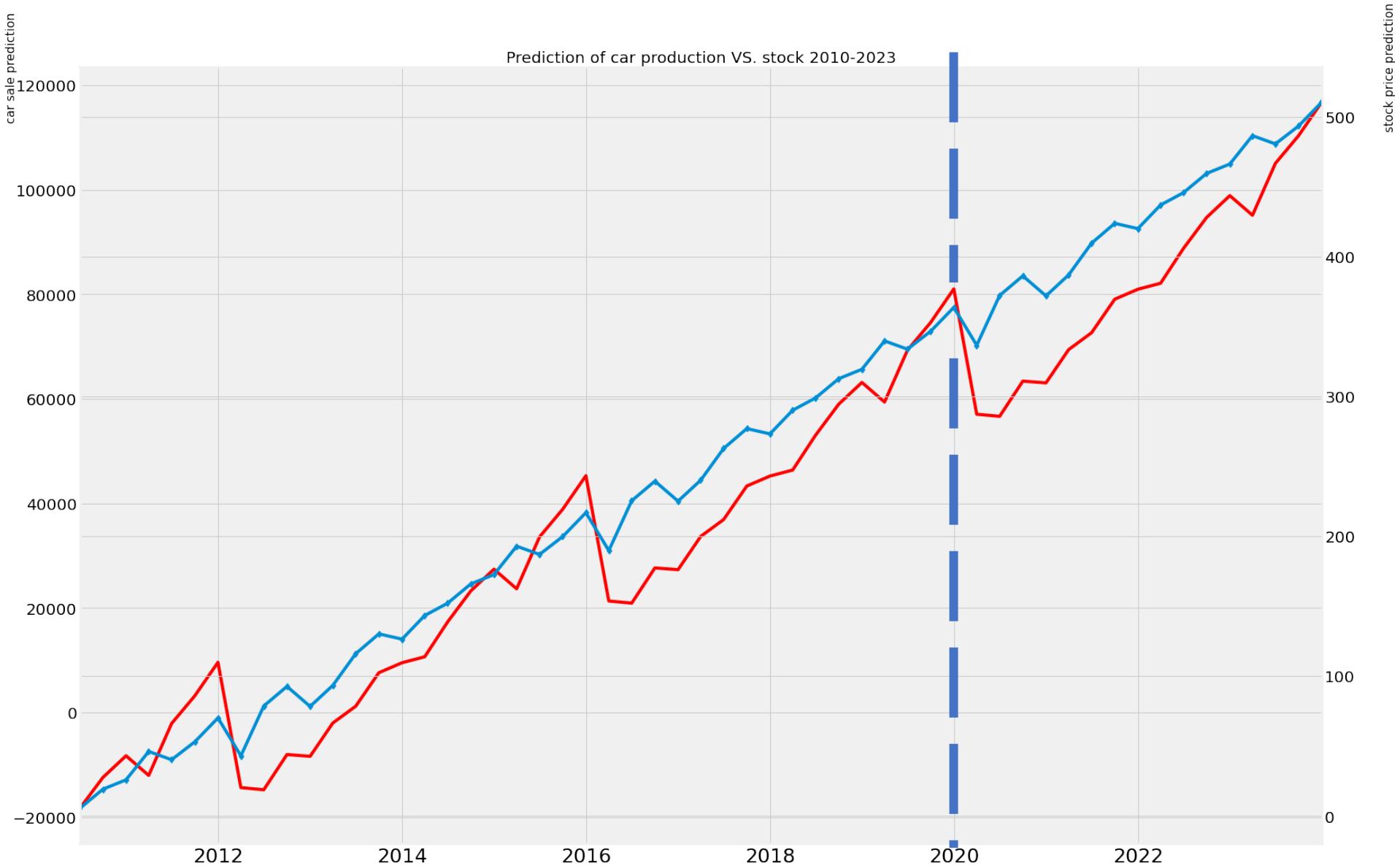
Tipping point in April 2016 :
Model 3 unveil

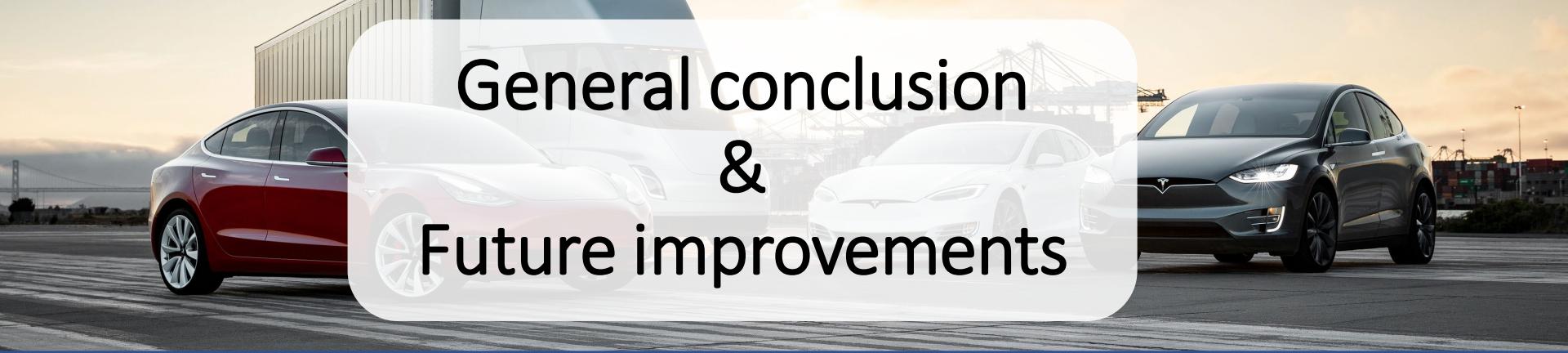


Car production strong correlation



Prophet prediction – steady growth for both car production & stock





General conclusion & Future improvements

- Predicting stocks is not easy ☺ - may be testing other algorithms (SARIMA ?)
- Analyzing Twitter needs multiple KPIs
- Tesla stock analysis might benefit from digging into Space X launch history

S3XY



MODEL S

MODEL 3

MODEL X

MODEL Y

Muchas merci !

CARS



CYBERTRUCK



ATV

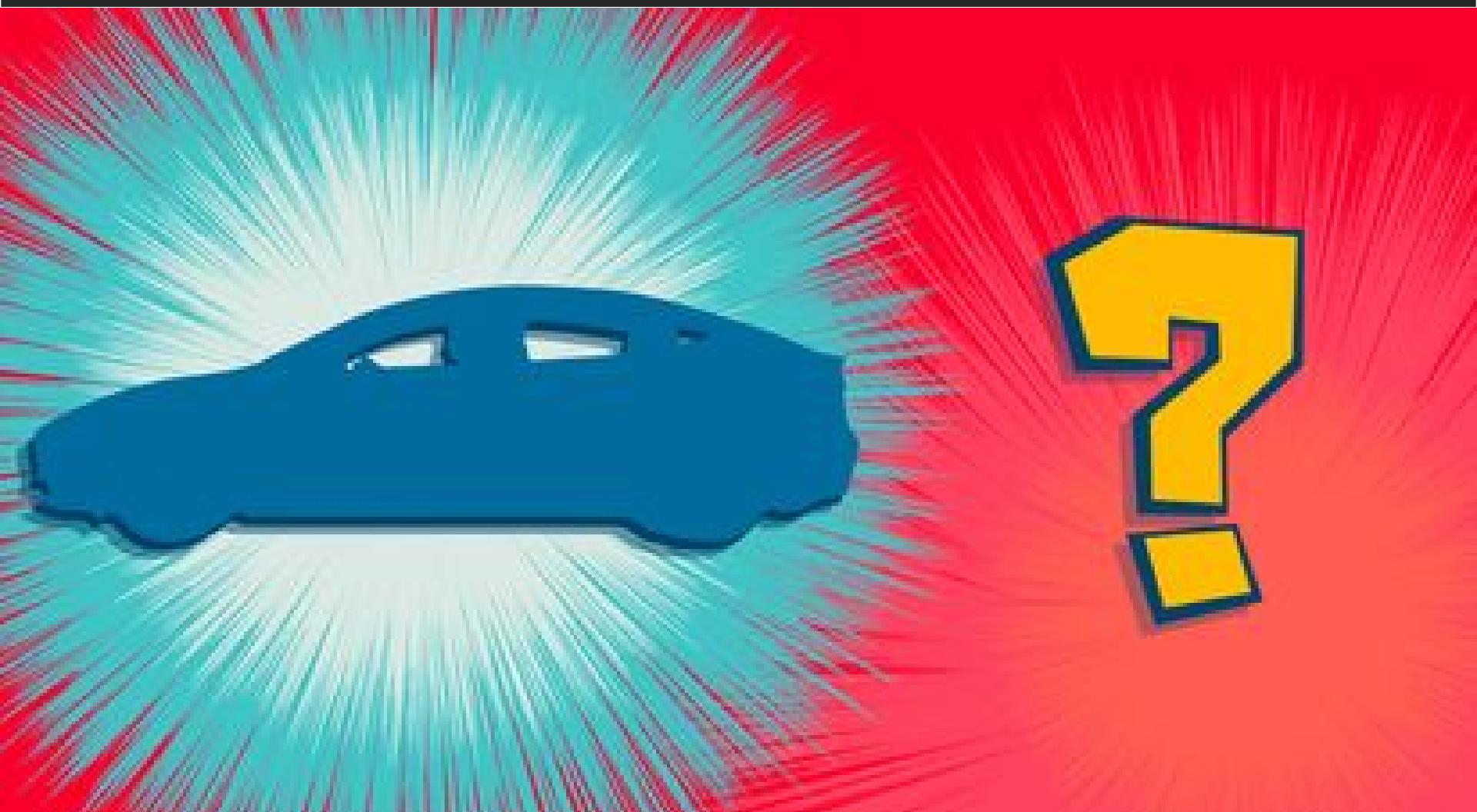


ROADSTER



SEMI

Any questions ?



Back Up Slides



Elon Musk

@elonmusk

Am considering taking Tesla private at \$420. Funding secured.

9:48 AM - 7 Aug 2018

6,749 Retweets 31,392 Likes



3.4K 6.7K 31K



Tweet your reply



Elon Musk

@elonmusk · 10m

Shareholders could either to sell at 420 or hold shares & go private

355 445 2.2K



Elon Musk
@elonmusk

Whoa ... the stock is so high lol

Traduire le Tweet

5:02 PM · 23 déc. 2019 · Twitter for iPhone

