Introduction:
A new approach to ML

@HumanCoders #ML #workshop

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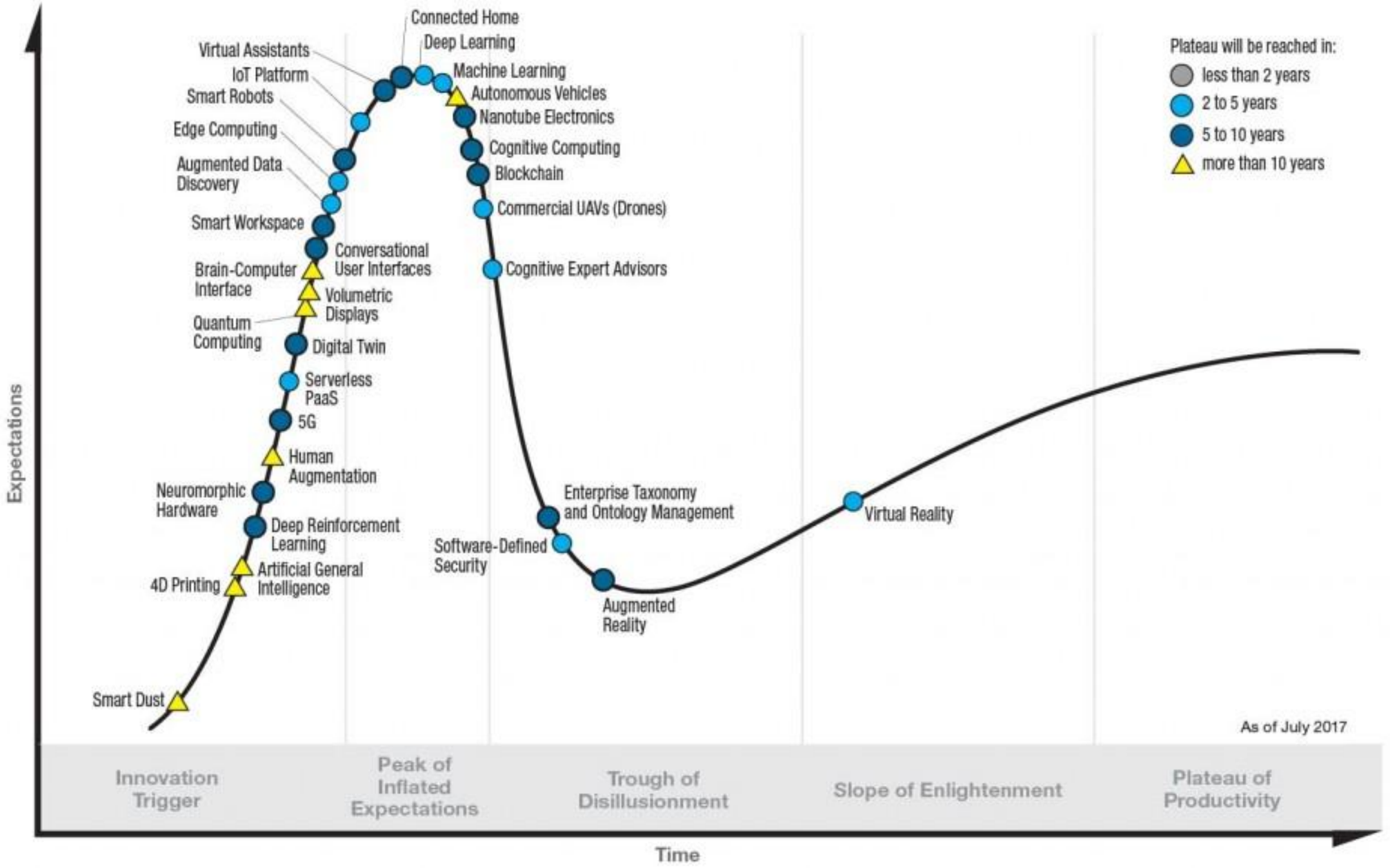
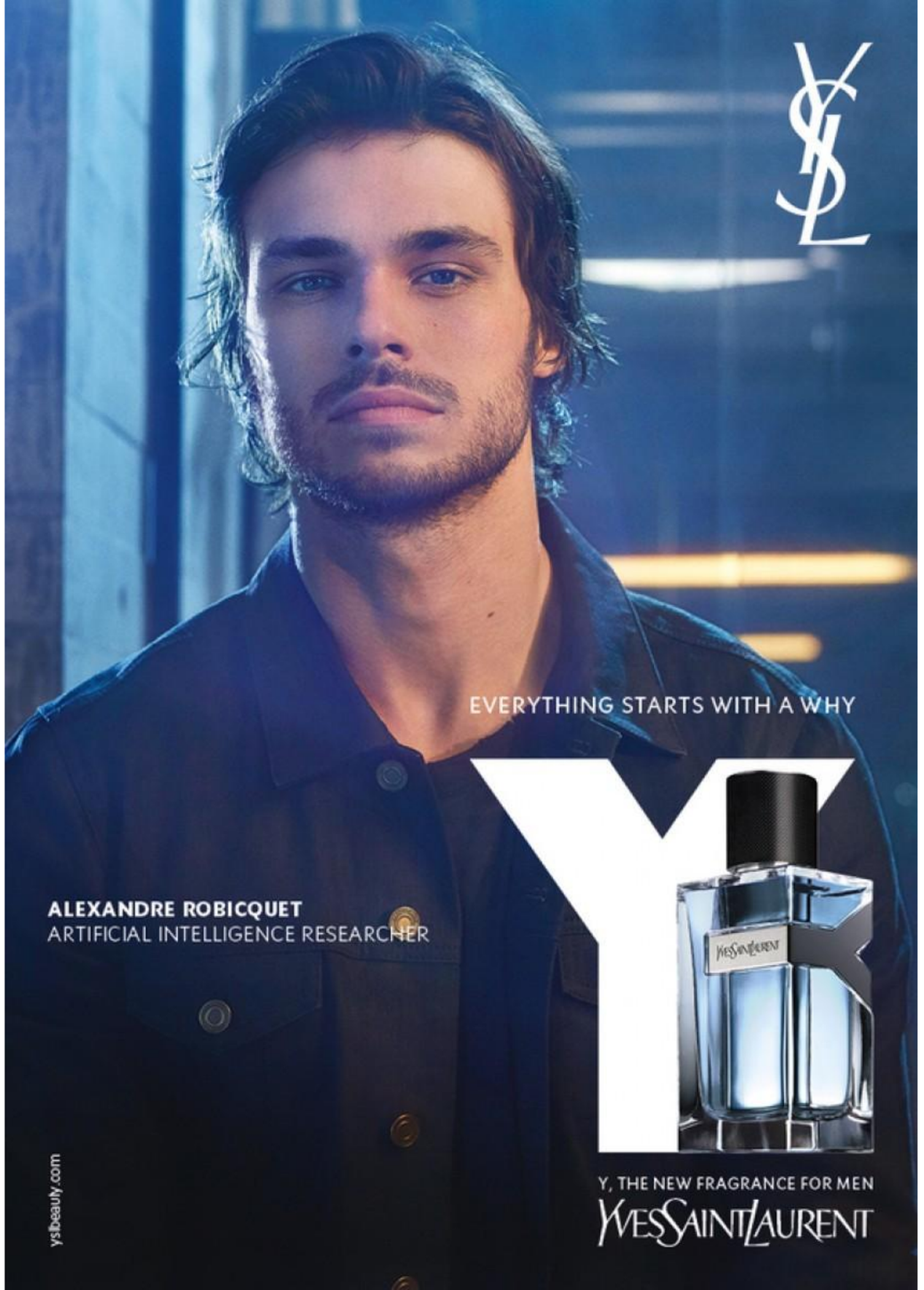
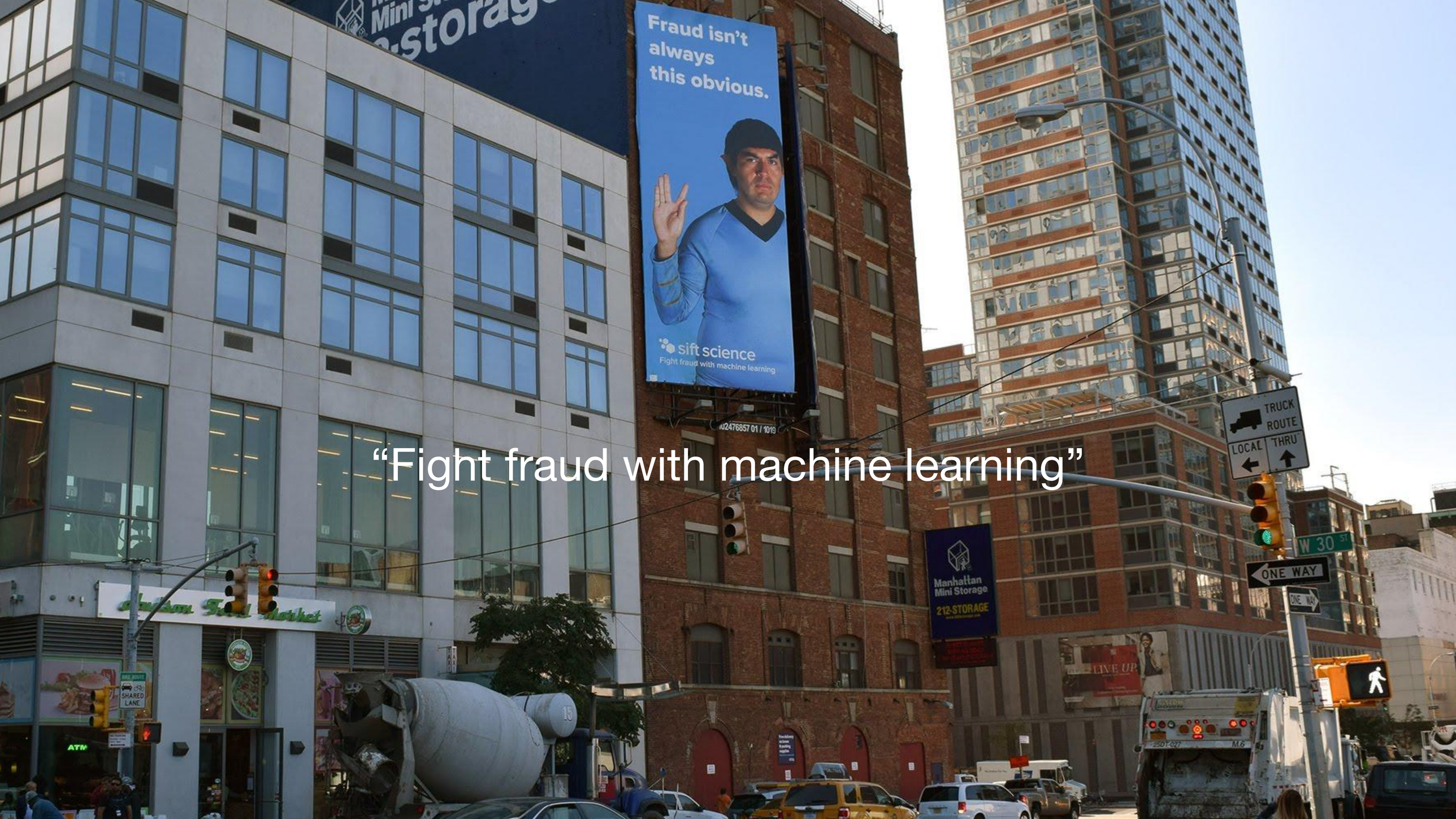
Gartner Hype Cycle for Emerging Technologies, 2017




EVERYTHING STARTS WITH A WHY
ALEXANDRE ROBICQUET
ARTIFICIAL INTELLIGENCE RESEARCHER
Y, THE NEW FRAGRANCE FOR MEN
YVES SAINT LAURENT
ysbeauty.com



"Fight fraud with machine learning"

Jian-Yang's actually put together
a pretty good classifier.

Orange F 4G 21:04 48 %

Chocolate Mousse

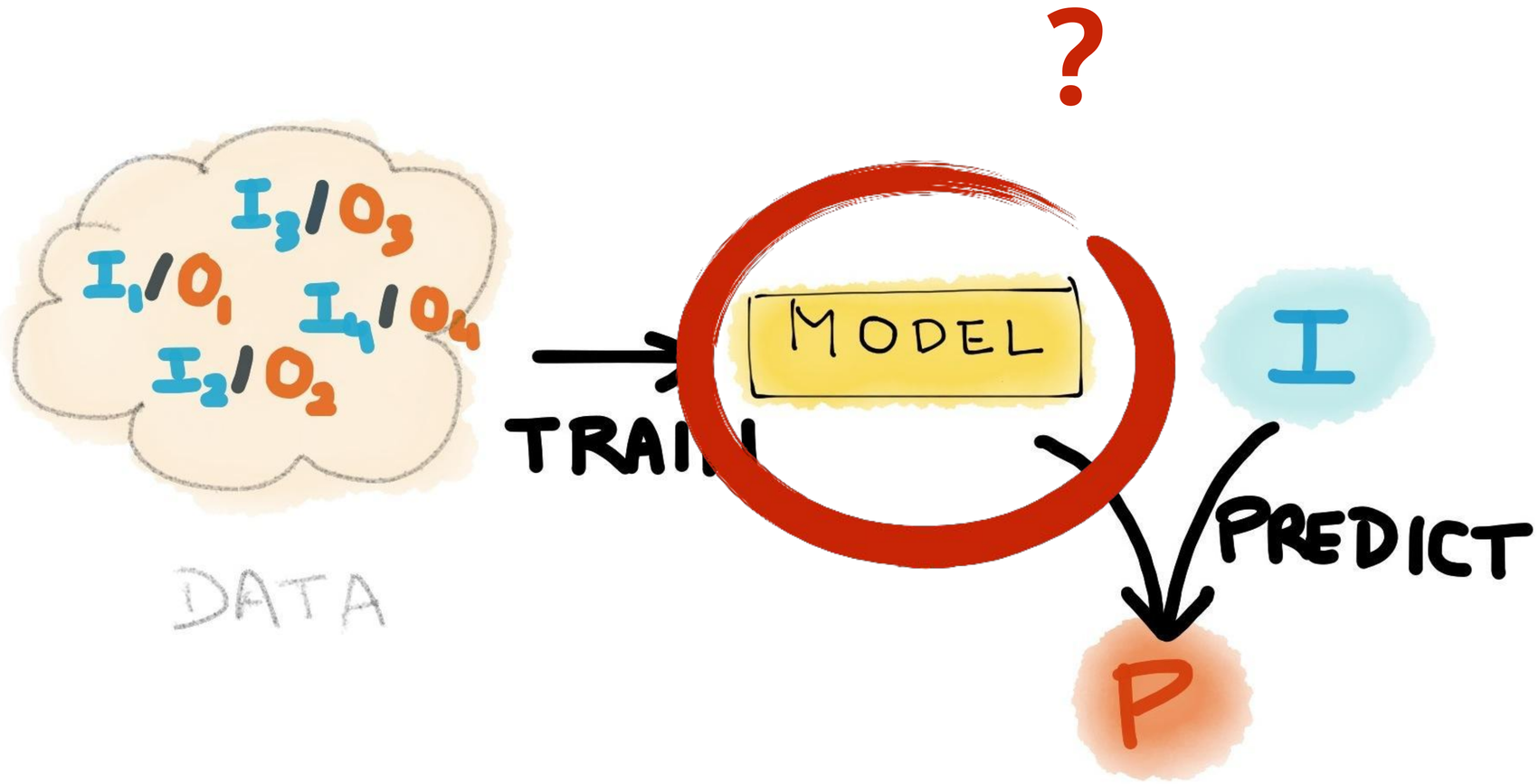
44%

Cals	Fat	Carb	Prot
355	25	27	7

Per 1 cup

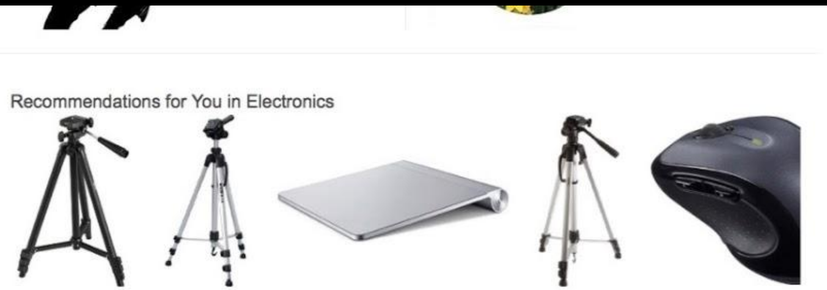
last column = output (by convention)

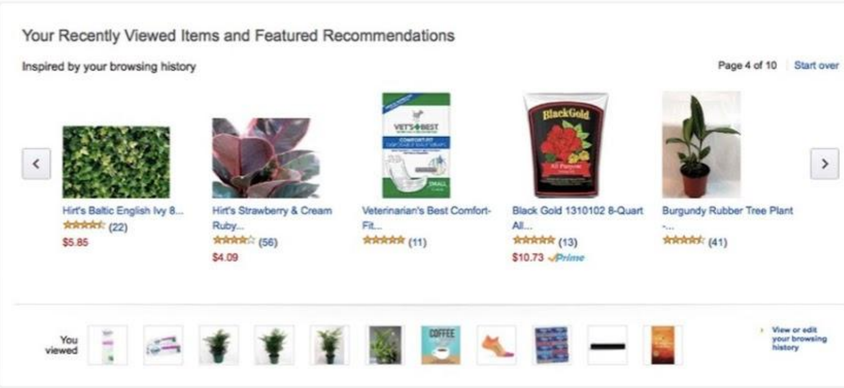
Bedrooms	Bathrooms	Surface (foot²)	Year built	Type	Price ($)
3	1	860	1950	house	565,000
3	1	1012	1951	house	
2	1.5	968	1976	townhouse	447,000
4		1315	1950	house	648,000
3	2	1599	1964	house	
3	2	987	1951	townhouse	790,000
1	1	530	2007	condo	122,000
4	2	1574	1964	house	835,000
4			2001	house	855,000
3	2.5	1472	2005	house	
4	3.5	1714	2005	townhouse	
2	2	1113	1999	condo	
1		769	1999	condo	315,000


?
I3/O3
I1/O1
I4/O4
I2/O2
DATA
MODEL
TRAIN
I
PREDICT
P

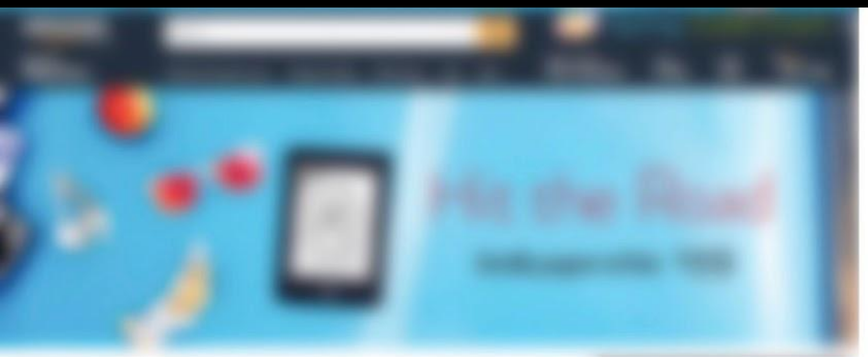
ML and AI are everywhere

Amazon for David Jones (@d_jones, see source)





Amazon for David Jones (@d_jones, see source)



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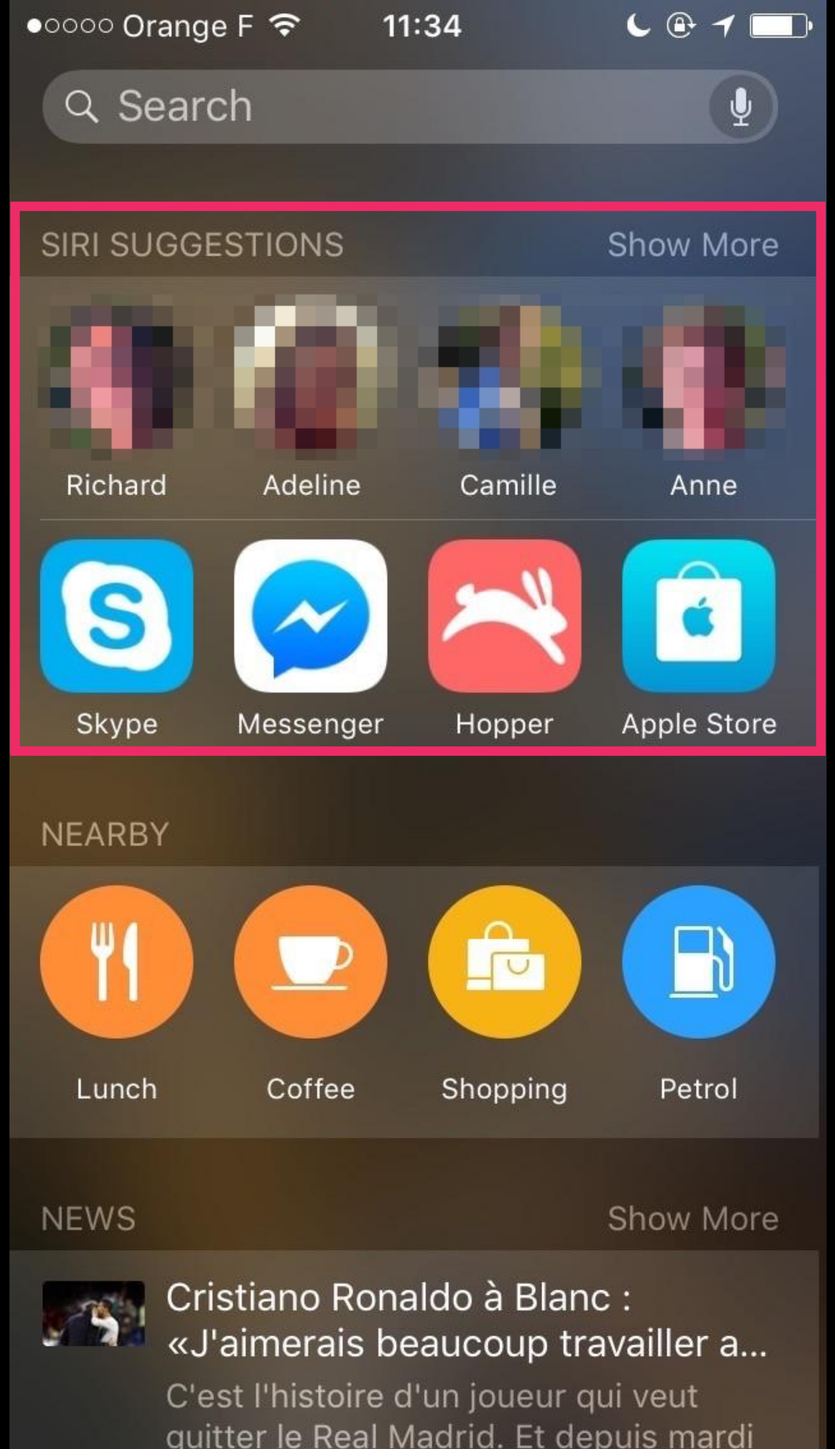
●○○○○ Orange F
11:34
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Richard
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Anne
Skype
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Hopper
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Coffee
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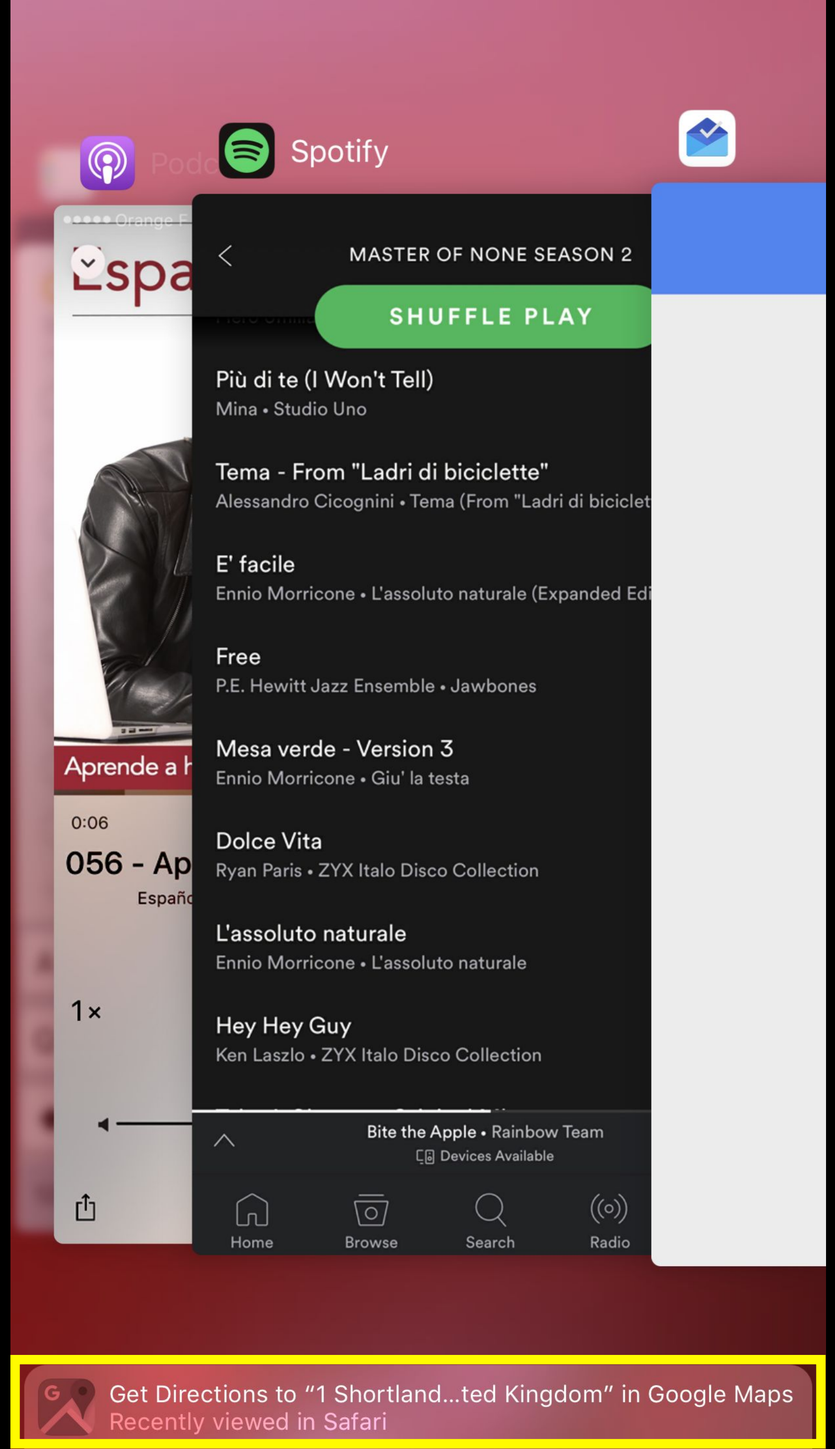
Cristiano Ronaldo à Blanc : «J'aimerais beaucoup travailler a...
C'est l'histoire d'un joueur qui veut quitter le Real Madrid. Et depuis mardi


Spotify
MASTER OF NONE SEASON 2
SHUFFLE PLAY
Più di te (I Won't Tell)
Mina • Studio Uno
Tema - From "Ladri di biciclette"
Alessandro Cicognini • Tema (From "Ladri di biciclet
E' facile
Ennio Morricone • L'assoluto naturale (Expanded Edi
Free
P.E. Hewitt Jazz Ensemble • Jawbones
Mesa verde - Version 3
Ennio Morricone • Giu' la testa
Dolce Vita
Ryan Paris • ZYX Italo Disco Collection
L'assoluto naturale
Ennio Morricone • L'assoluto naturale
Hey Hey Guy
Ken Laszlo • ZYX Italo Disco Collection
Bite the Apple • Rainbow Team
Devices Available
Home
Browse
Search
Radio
0:06
1×
Get Directions to “1 Shortland...ted Kingdom” in Google Maps
Recently viewed in Safari

PAR – BUE
Jun 1 – Jun 17

You should keep watching this trip.

You will be notified when deals are available or prices start to rise.

Watching

Price Prediction

Today until Apr 7
Prices will vary over the next 4 months, dropping as low as **671 €** (savings of **70 €**).

Apr 8 – May 26
Prices will probably rise about **86 €** after April 8.

May 27 – Jun 1
Prices are expected to climb at least **438 €** after May 27.

Reminders

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PDF E-book Requested

forward the download url to your electronic book's edition & additional code samples referenced within the Amazon.com product detail page

Greg to bml-ebook

Oct 28

Hi, Louis.

Please forward the download url to your electronic book's edition & additional code samples referenced within the Amazon.com product detail page.

Thank you very much.

Greg Newman
gnwmn@yahoo.com

What do developers *actually* need to know about Machine Learning?

Which algorithms do you need to know?

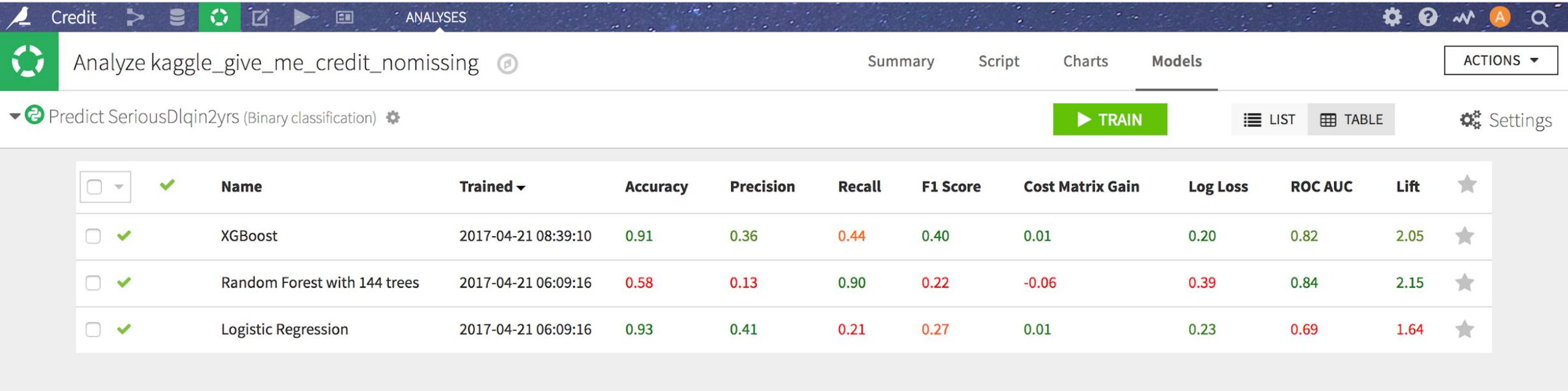
- Do we Need Hundreds of Classifiers to Solve Real World Classification Problems?
- **Random forests** most likely to perform best
- Based on **decision trees**
- Implemented in all ML tools

How much do you need to know?

- Intuitions — what makes learning possible?
- High-level understanding of learning algorithm
- Main parameters
- Possibilities and limitations

how do we quantify that?

Model evaluation



Name	Trained	Accuracy	Precision	Recall	F1 Score	Cost Matrix Gain	Log Loss	ROC AUC	Lift
XGBoost	2017-04-21 08:39:10	0.91	0.36	0.44	0.40	0.01	0.20	0.82	2.05
Random Forest with 144 trees	2017-04-21 06:09:16	0.58	0.13	0.90	0.22	-0.06	0.39	0.84	2.15
Logistic Regression	2017-04-21 06:09:16	0.93	0.41	0.21	0.27	0.01	0.23	0.69	1.64