Big Data for Social Good

Using Kaggle for Business and Social Impact

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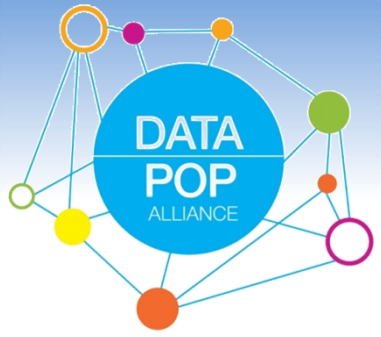


DATALOOK

DataRobot

Agenda

Big Data for Social Good

> The Macro Perspective

> The Micro Perspective

...and Kaggle

> Short Intro

> Interactive Crash Course

Interactive part: 1. Load bit.ly/bitkom15 and create account
2. Create account on kaggle.com

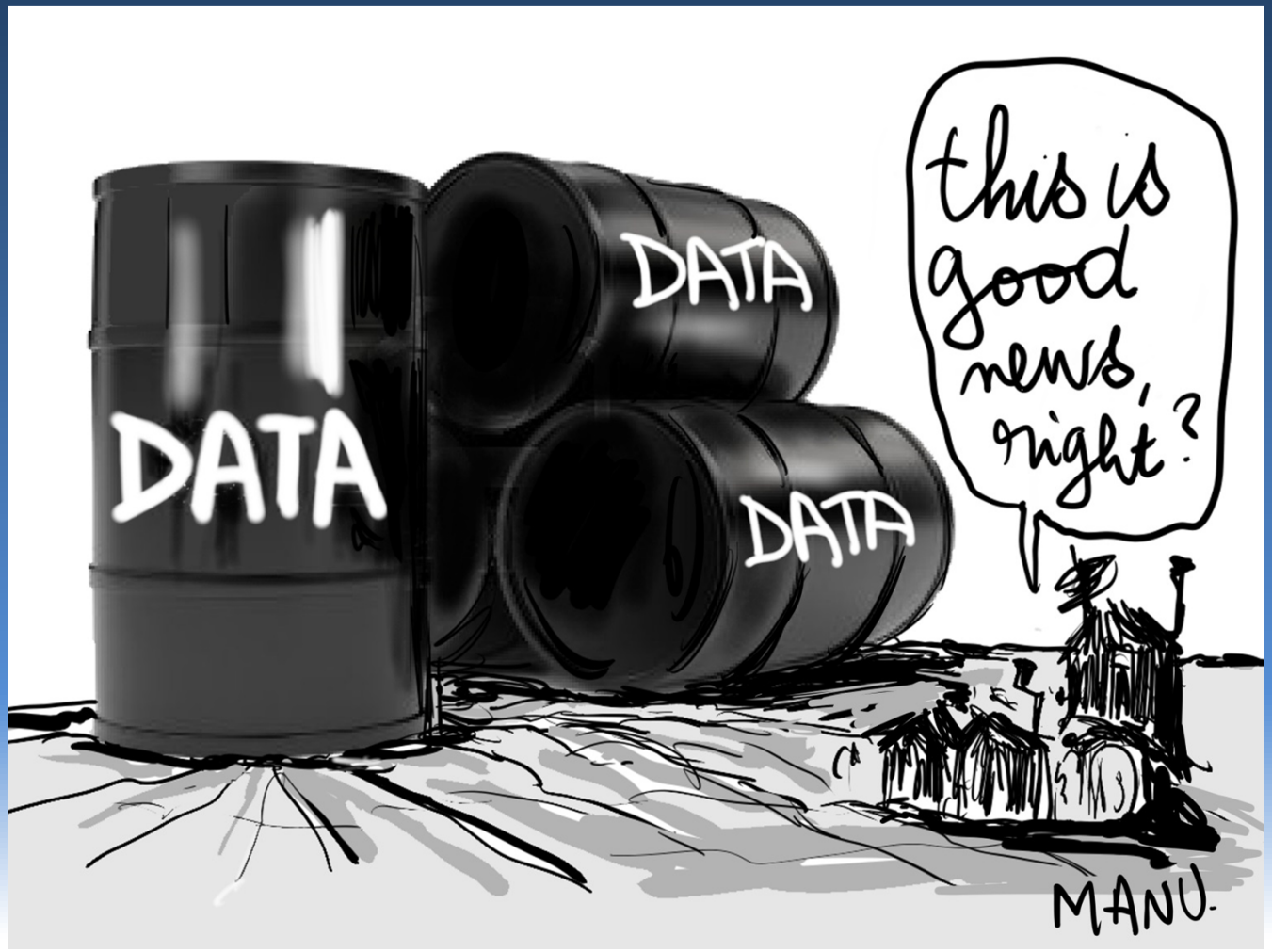
> The Macro Perspective

Big Data and Development

Emmanuel Letouzé

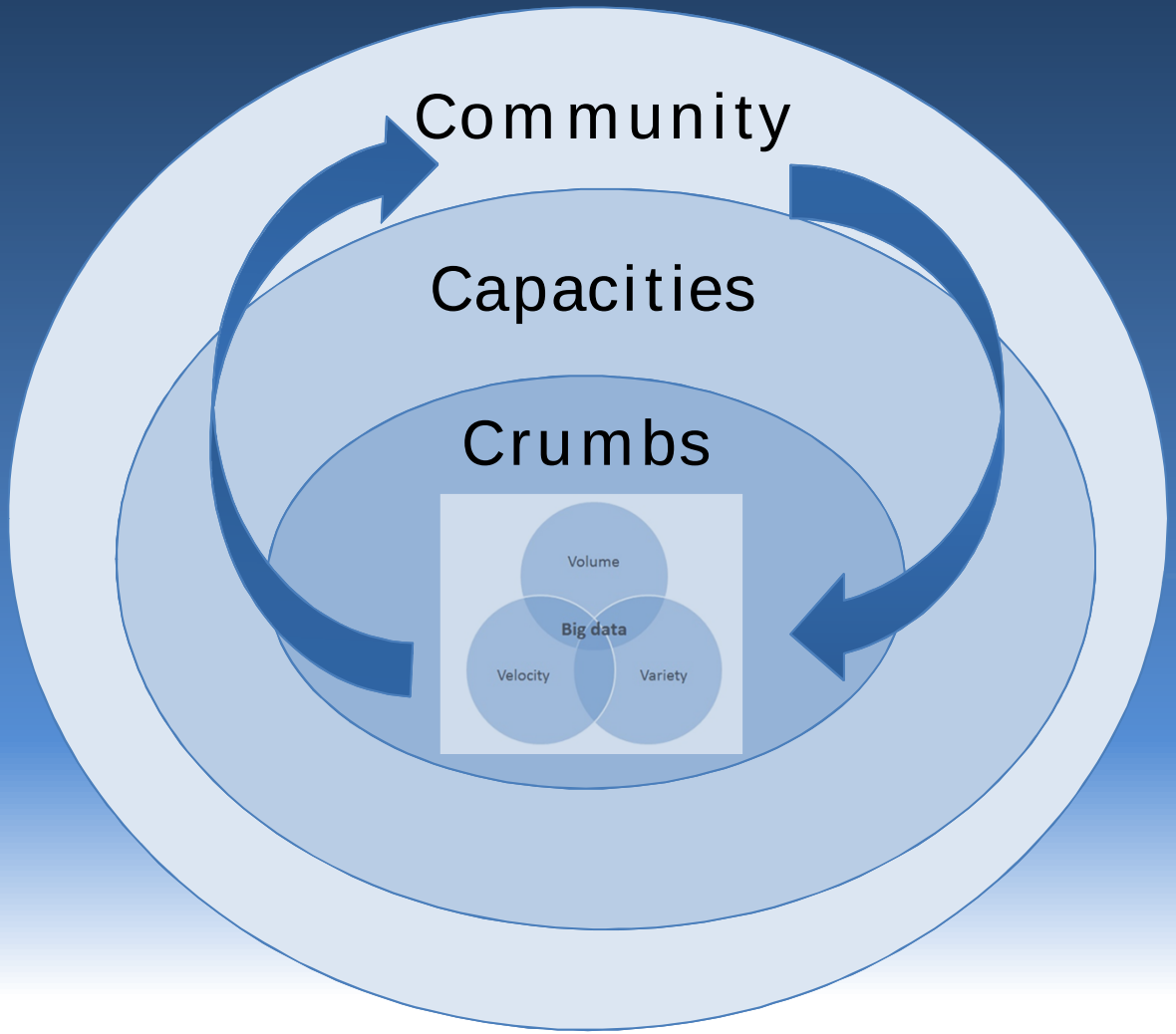

BIG DATA
"and i thought small prints were hard to read."
MANU.

"The bottom half of the world's population owns the same as the richest 85 people in the world" *



* Source: Oxfam International, citing Credit Suisse, Jan. 2014

Big Data as / is a new ecosystem: from the 3 Vs to the 3Cs of Big Data



i. Exhaust

ii. Web

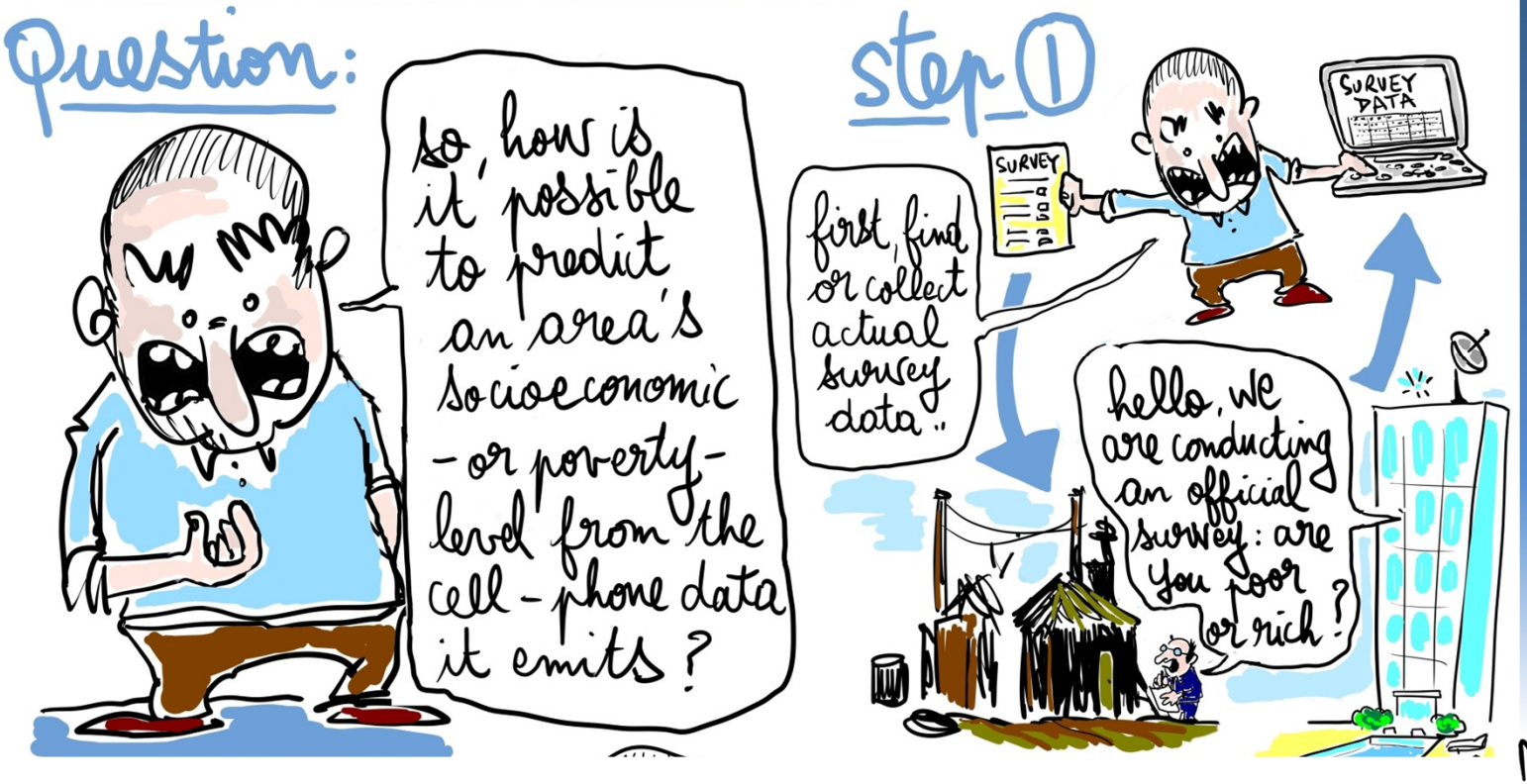
iii. Sensing

Applications: Taxonomy

1. Descriptive
   - e.g. maps, clouds..
2. Predictive:
   - forecasting
   - inference
3. Prescriptive
   - causal inference

an illustrated introduction to

Predicting socioeconomic levels through cell-phone data



Emmanuel Letouzé

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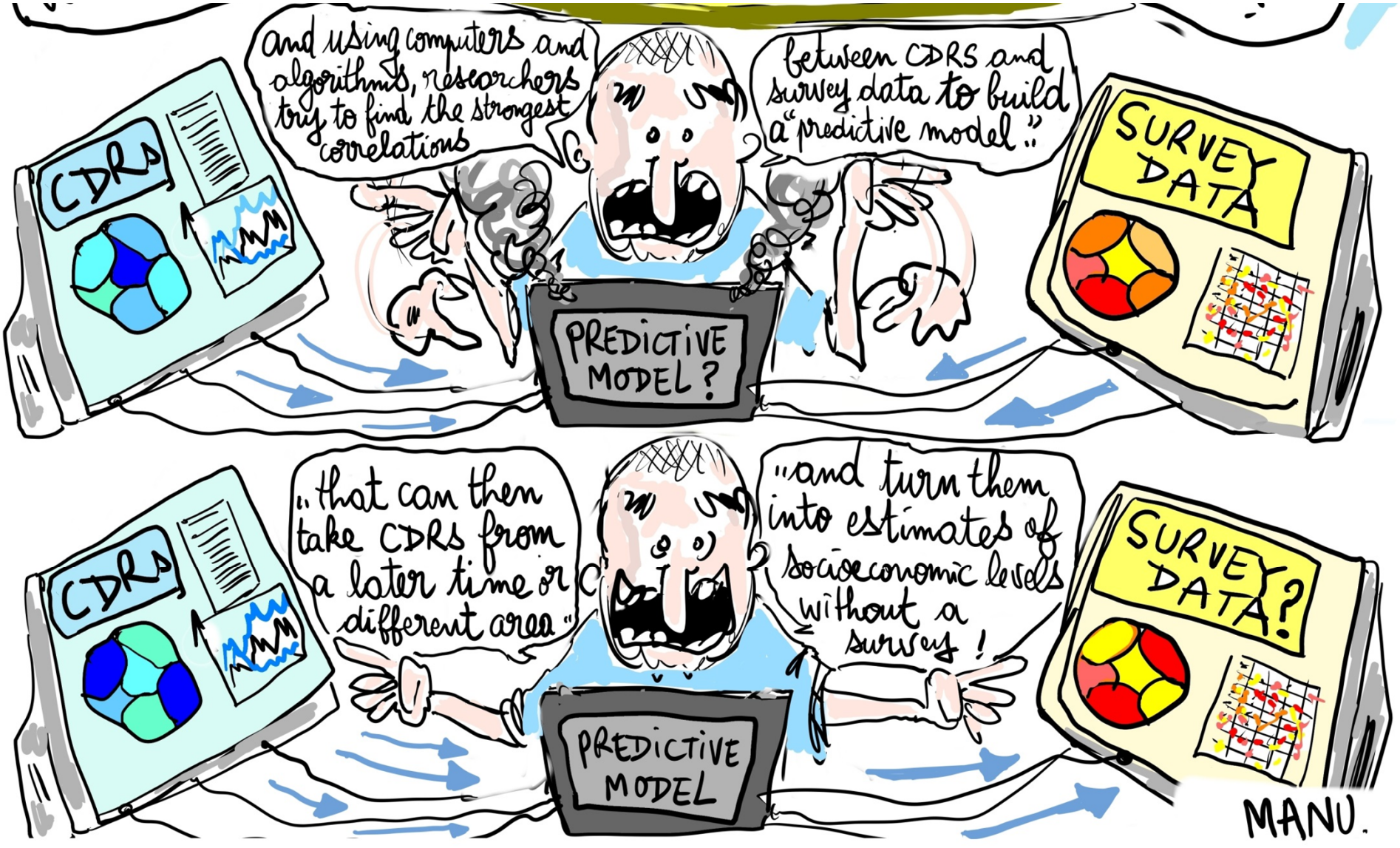
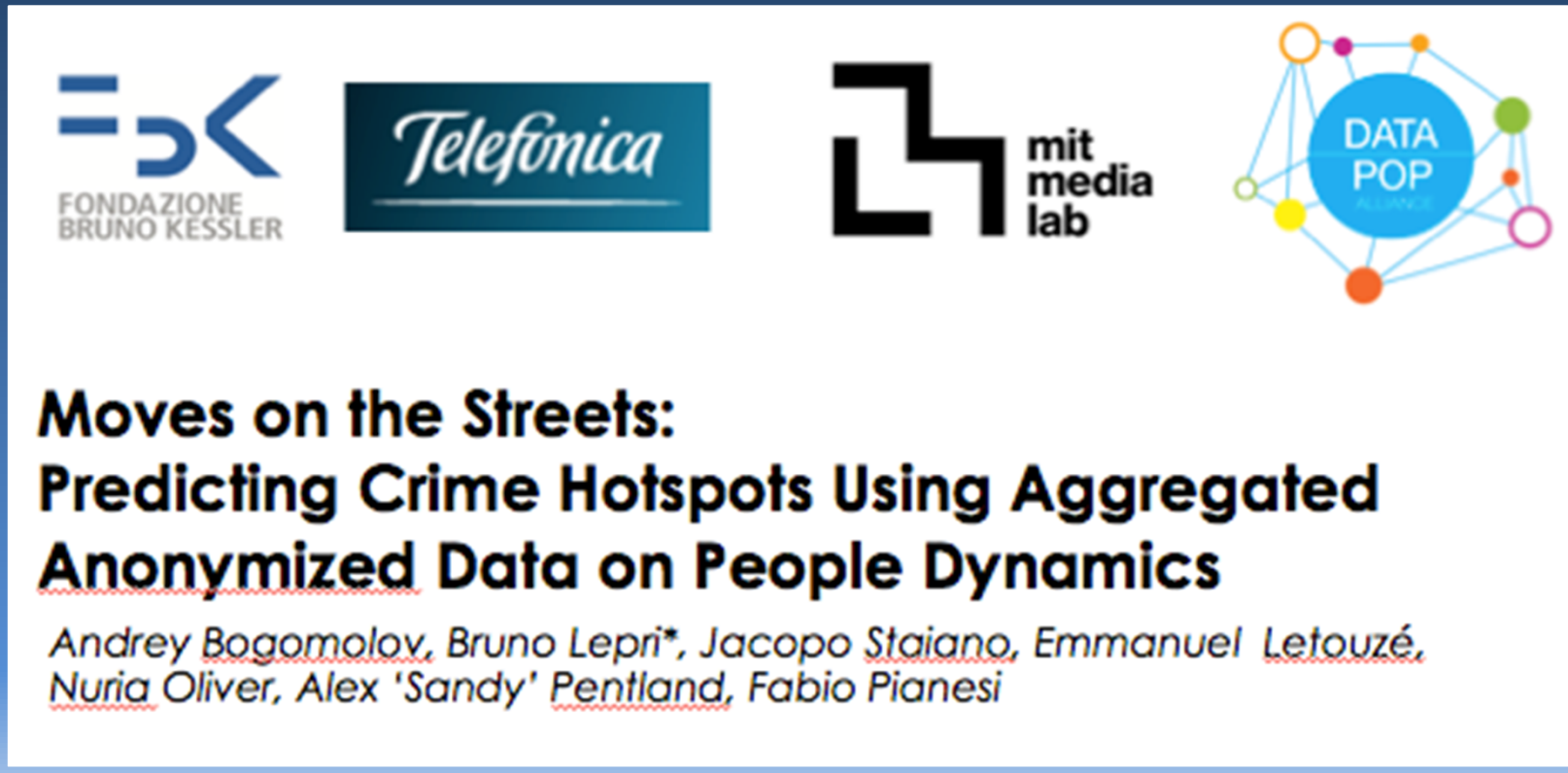

CDRs
And using computers and algorithms, researchers try to find the strongest correlations
between CDRS and survey data to build a "predictive model."
SURVEY DATA
PREDICTIVE MODEL ?
CDRs
"that can then take CDRS from a later time or different area"
"and turn them into estimates of socioeconomic levels without a survey!
SURVEY DATA?
PREDICTIVE MODEL
MANU.

Applications: ongoing



Applications: Examples

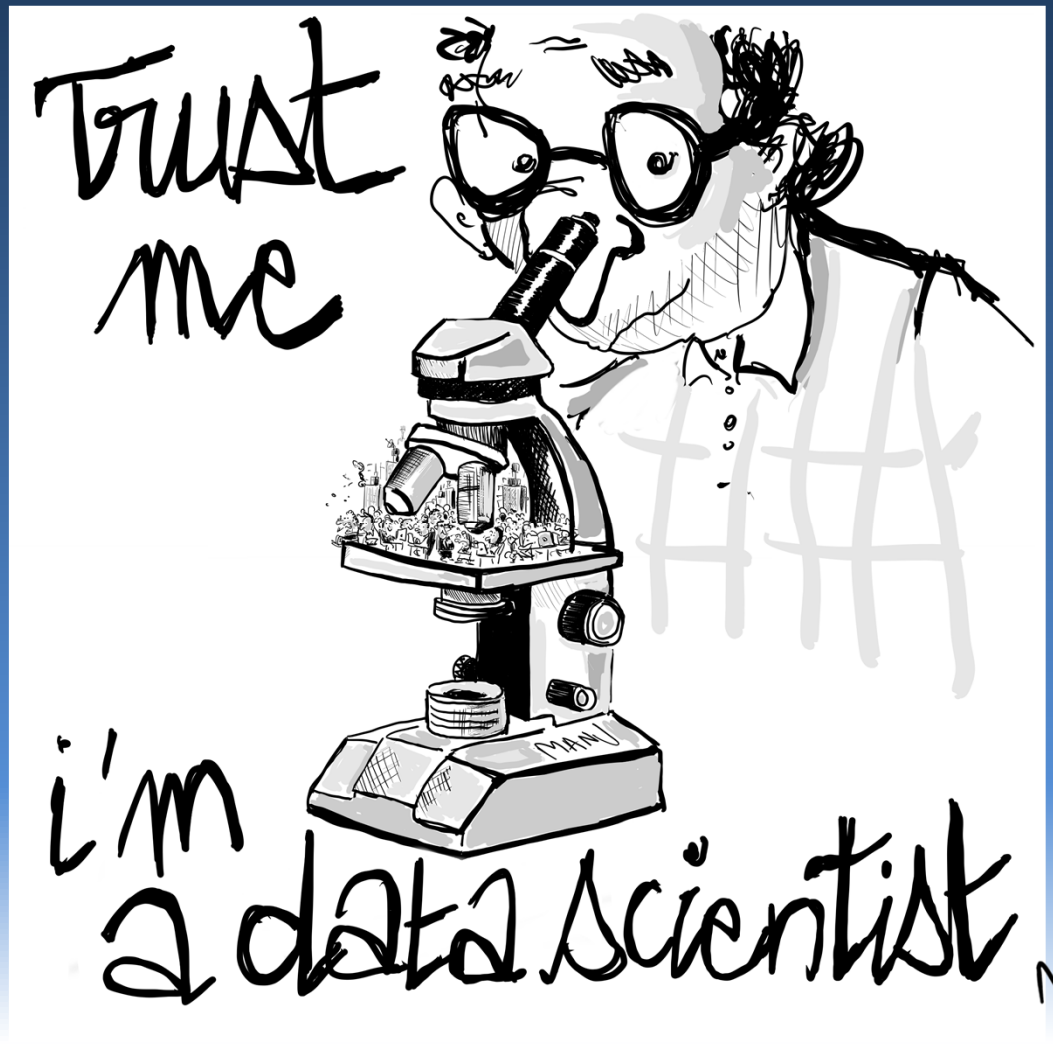
BLOG POST

Could Big Data provide alternative measures of poverty and welfare?

Cell-Phone Data Might Help Predict Ebola's Spread

Mobility data from an African mobile-phone carrier could help researchers recommend where to focus health-care efforts.

Implications: Ethics



Implications: Power

A development data revolution needs to go beyond the geeks and bean-counters

Will better data really lead to better development policies? Only if the right people have access and use it to make better policies

Jonathan Glemmie, The Guardian, Oct 3, 2013

Advancing Knowledge and Innovation with Big Data

Building Capacities and Connections in Big Data

Crafting ethical and equitable systems for Big Data

Emmanuel Letouzé

Cartagena Data Festival

Better data for a better tomorrow

20 - 22 APRIL 2015

CARTAGENA, COLOMBIA

Event Organisers

Development Progress

africa gathering

Cepei

DATA POP ALLIANCE

PARIS21

UNFPA

UNDP

Empowered lives. Resilient nations.

Event Partners

DANE

TODOS POR UN NUEVO PAÍS

ONE

open data institute

Emmanuel Letouzé

> The Micro Perspective

> The Micro Perspective

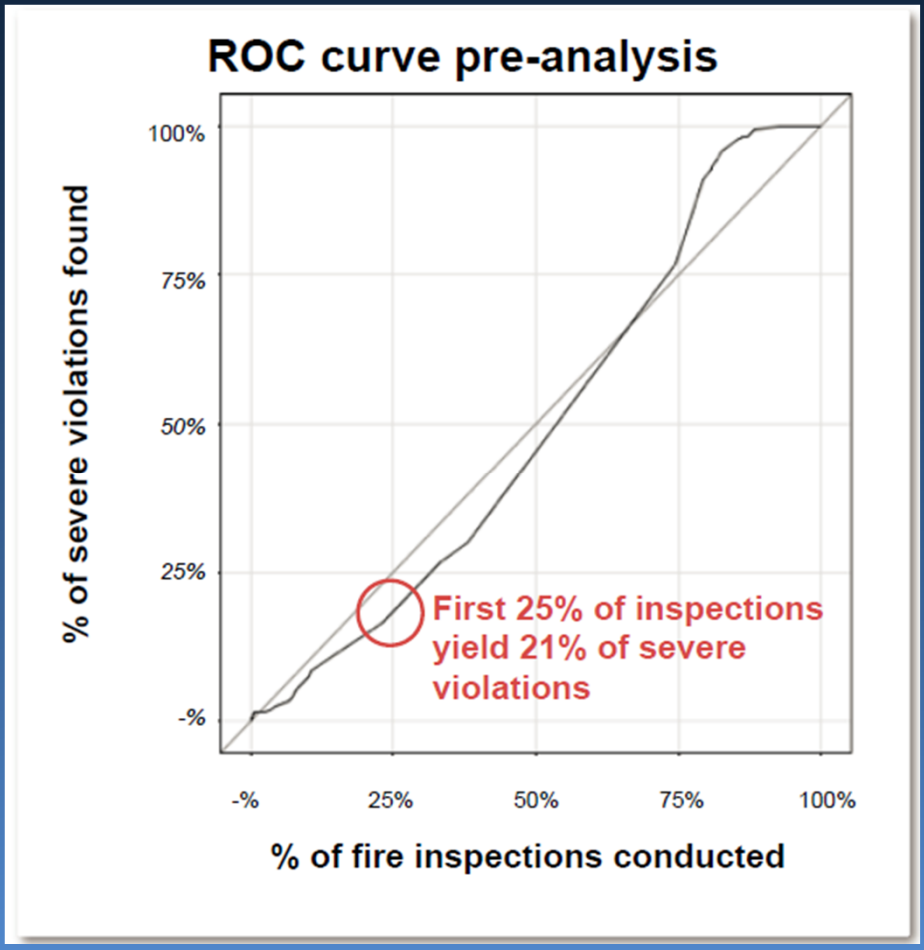
Bring the superpowers of data science to **nonprofit** organizations and to the **local administration**.

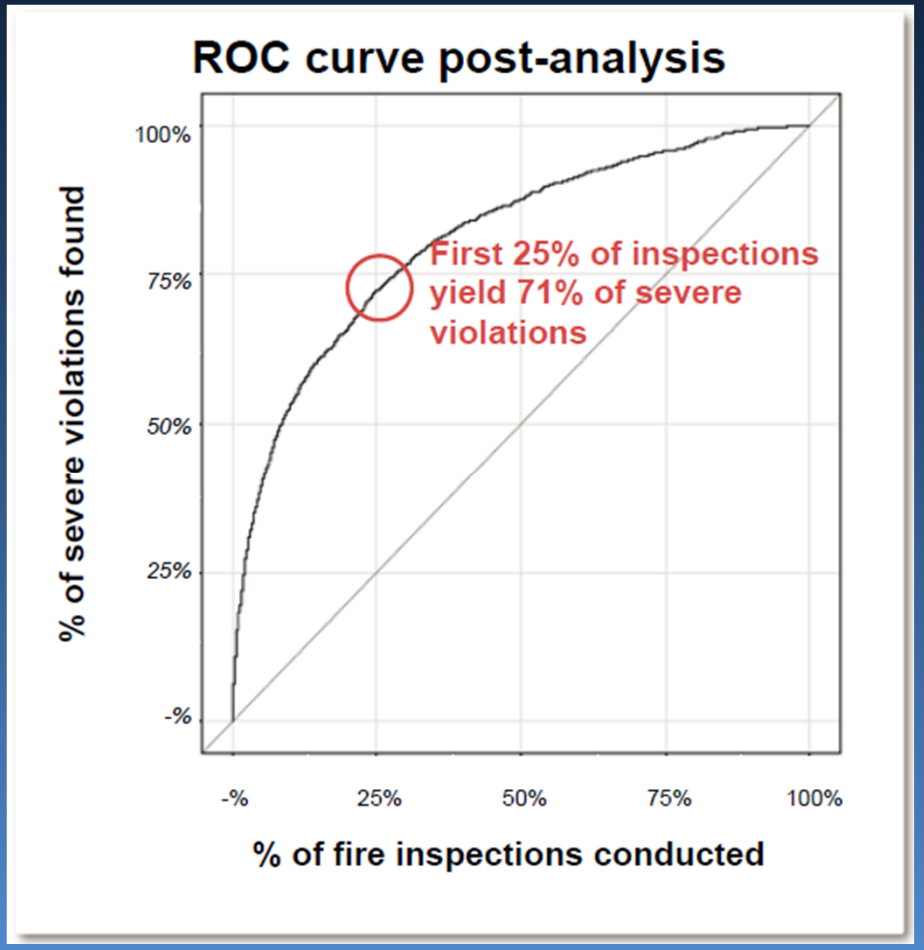
> The Micro Perspective

Saving lives with predictive analytics in New York City

Tobias Pfaff

NYC Analytics





Time that buildings are **at risk of severe fire** significantly **reduced.**

Tobias Pfaff

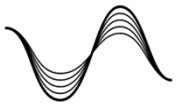
[Slide from Drew Conway, http://bit.ly/1BjFpvW]

> The Micro Perspective

Which **social problems** can be solved with (Big) Data?

Who are the other players?

DataKind



The Eric & Wendy Schmidt
Data Science for Social Good
Summer Fellowship
THE UNIVERSITY OF CHICAGO

> The Micro Perspective

...and how can my company get involved?

January 16 2015

0 comments

Pivotal For Good with Crisis Text Line: A First Look

Post by Noelle Sio, DataKind Data Ambassador and Principal Data Scientist at Pivotal

Note: This post originally appeared on Pivotal's blog on January 13 2015.

A couple months ago, Pivotal and DataKind announced the launch of the first Pivotal For Good (P4G) project, a collaboration between Crisis Text Line and yours truly. P4G

Tobias Pfaff

[http://bit.ly/1w6fccS]

> **Short Intro to** Data Science Competitions with

Peter Prettenhofer

How Data Science Competitions Work

Return%	ProductID	Dept	Price	MFR
1.94	54323	Household	54.95	USA
0.023	92356	Household	9.95	USA
0.8	78023	Computer	4.5	China
0.01	12340	Audio	109.99	China
0.41	31240	Audio	29.99	Taiwan
0.97	12351	Hardware	54.95	Mexico
0.0115	90141	Hardware	4.99	USA
0.4	81240	Hardware	6.55	Taiwan
0.03	14896	Computer	211.99	Korea
0.205	62132	Computer	1100	USA
1.6878	54323	Audio	34.99	USA
0.0345	92356	Audio	7.99	USA
0.64	78023	Household	229.9	Brazil
0.72	12340	Audio	19.95	Mexico
0.41	31240	Computer	6.99	Taiwan
1.94	54323	Hardware	11.99	Taiwan
0.023	92356	Household	2.05	USA
0.08	78023	Computer	99.99	USA
2.09	12340	Computer	129.99	China
1.1	31240	Audio	18.99	China

Target

Features

How Data Science Competitions Work

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Training

Ground Truth

Testing

How Data Science Competitions Work

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?	78023	Computer	99.99	USA
?	12340	Computer	129.99	China
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Training

Blanks

Testing

How Data Science Competitions Work

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0.83	78023	Household	229.9	Brazil
0.65	12340	Audio	19.95	Mexico
0.52	31240	Computer	6.99	Taiwan
1.74	54323	Hardware	11.99	Taiwan
0.1	92356	Household	2.05	USA
0.02	78023	Computer	99.99	USA
2.9	12340	Computer	129.99	China
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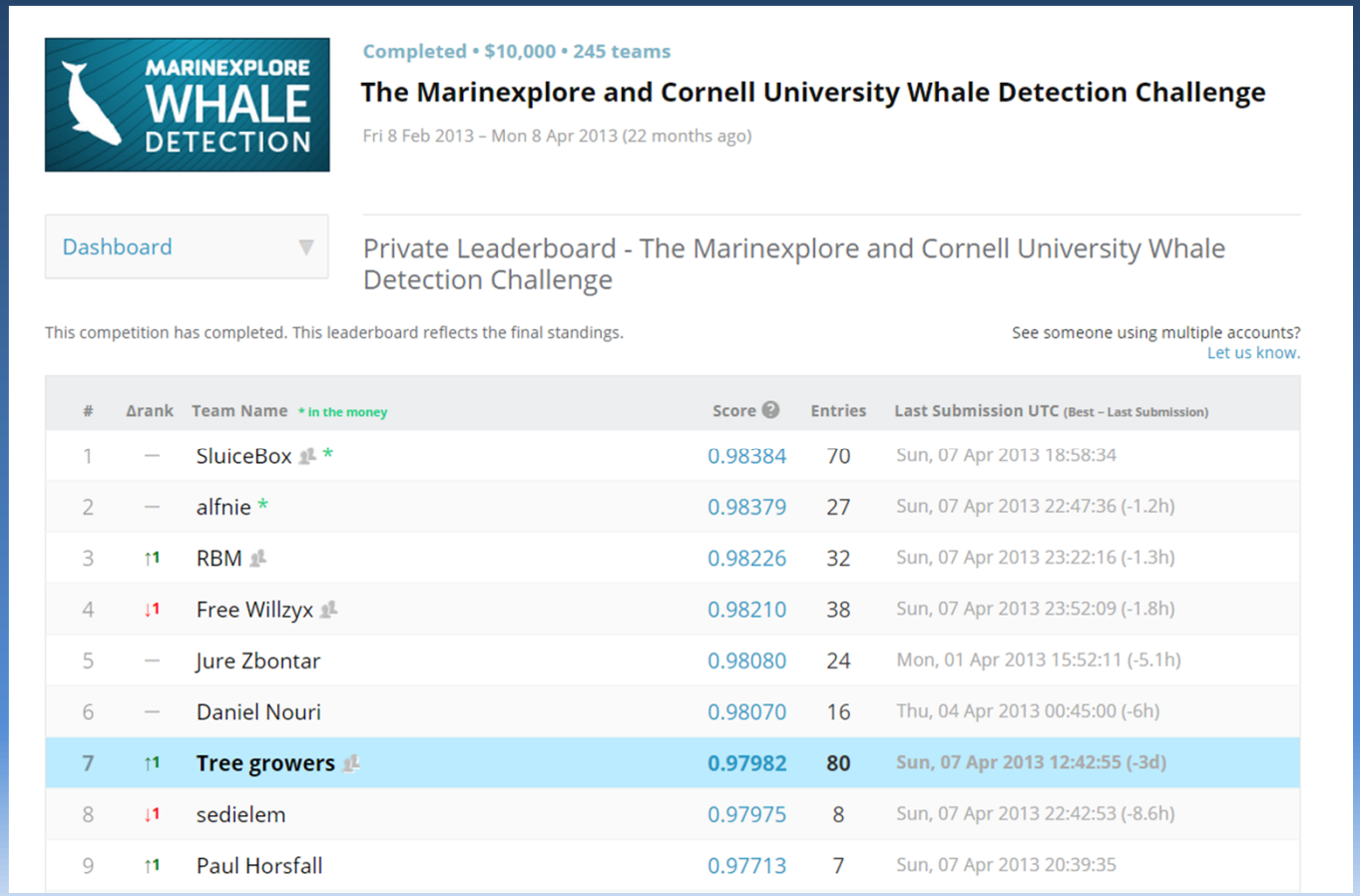
Training

Submissions

Testing

Peter Prettenhofer

How Data Science Competitions Work



Completed • $10,000 • 245 teams

The Marinexplore and Cornell University Whale Detection Challenge

Fri 8 Feb 2013 – Mon 8 Apr 2013 (22 months ago)

Dashboard

Private Leaderboard - The Marinexplore and Cornell University Whale Detection Challenge

This competition has completed. This leaderboard reflects the final standings.

See someone using multiple accounts? Let us know.

#	Δrank	Team Name * in the money	Score	Entries	Last Submission UTC (Best – Last Submission)
1	—	SluiceBox *	0.98384	70	Sun, 07 Apr 2013 18:58:34
2	—	alfnie *	0.98379	27	Sun, 07 Apr 2013 22:47:36 (-1.2h)
3	↑1	RBM	0.98226	32	Sun, 07 Apr 2013 23:22:16 (-1.3h)
4	↓1	Free Willzyx	0.98210	38	Sun, 07 Apr 2013 23:52:09 (-1.8h)
5	—	Jure Zbontar	0.98080	24	Mon, 01 Apr 2013 15:52:11 (-5.1h)
6	—	Daniel Nouri	0.98070	16	Thu, 04 Apr 2013 00:45:00 (-6h)
7	**↑1**	**Tree growers**	**0.97982**	**80**	**Sun, 07 Apr 2013 12:42:55 (-3d)**
8	↓1	sedielem	0.97975	8	Sun, 07 Apr 2013 22:42:53 (-8.6h)
9	↑1	Paul Horsfall	0.97713	7	Sun, 07 Apr 2013 20:39:35

How Data Science Competitions Work

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Training

Public/Private Leaderboard

Testing

Peter Prettenhofer

How Data Science Competitions Work

Peter Prettenhofer

> Interactive Kaggle Crash Course

Interactive part: 1. Load bit.ly/bitkom15 and create account
2. Create account on kaggle.com

Slides and interactive material available at bit.ly/bitkom16

Peter Prettenhofer

Thank you.

Questions?

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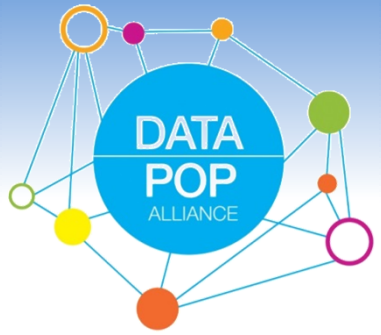
Tobias Pfaff
tobias@datalook.io

Peter Prettenhofer
peter@datarobot.com



DATA LOOK

DataRobot