ODSC Boston 2016

https://www.odsc.com/boston

20-22 May 2016

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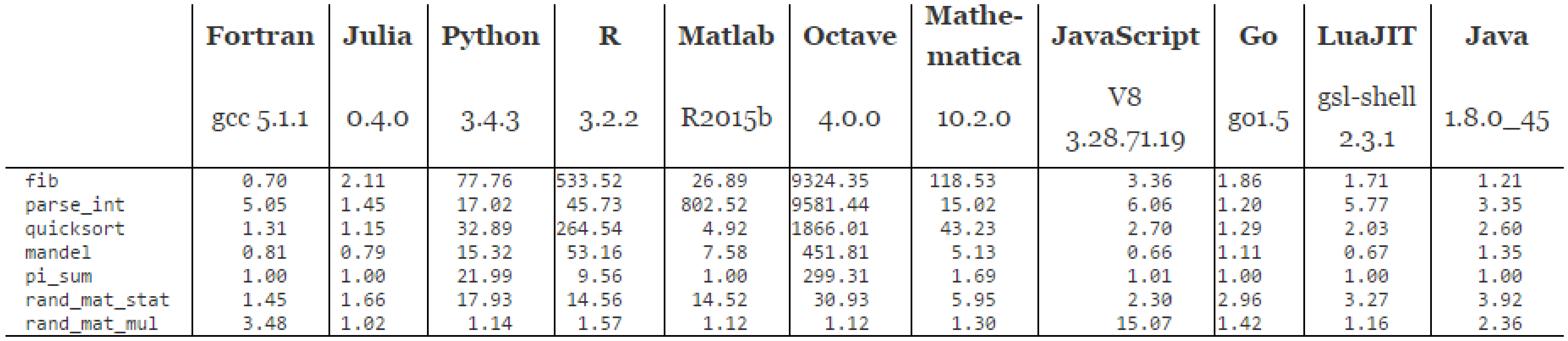
JULIA programming language

- core implementation MIT license
- packages licenses GPL, LGPL, BSD

[http://julialang.org]

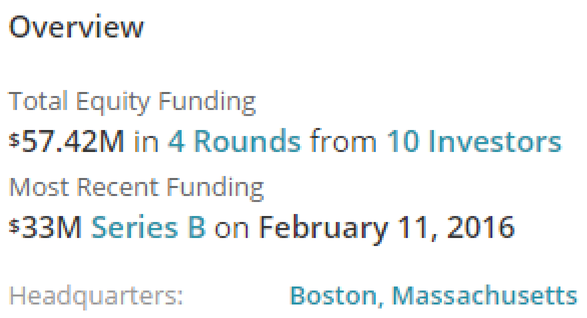
- BASH
- MATLAB
- PYTHON
- C



	Fortran	Julia	Python	R	Matlab	Octave	Mathe-matica	JavaScript	Go	LuaJIT	Java
	gcc 5.1.1	0.4.0	3.4.3	3.2.2	R2015b	4.0.0	10.2.0	V8 3.28.71.19	go1.5	gsl-shell 2.3.1	1.8.0_45
fib	0.70	2.11	77.76	533.52	26.89	9324.35	118.53	3.36	1.86	1.71	1.21
parse_int	5.05	1.45	17.02	45.73	802.52	9581.44	15.02	6.06	1.20	5.77	3.35
quicksort	1.31	1.15	32.89	264.54	4.92	1866.01	43.23	2.70	1.29	2.03	2.60
mandel	0.81	0.79	15.32	53.16	7.58	451.81	5.13	0.66	1.11	0.67	1.35
pi_sum	1.00	1.00	21.99	9.56	1.00	299.31	1.69	1.01	1.00	1.00	1.00
rand_mat_stat	1.45	1.66	17.93	14.56	14.52	30.93	5.95	2.30	2.96	3.27	3.92
rand_mat_mul	3.48	1.02	1.14	1.57	1.12	1.12	1.30	15.07	1.42	1.16	2.36

Figure: benchmark times relative to C (smaller is better, C performance = 1.0).

datarobot.com



Overview

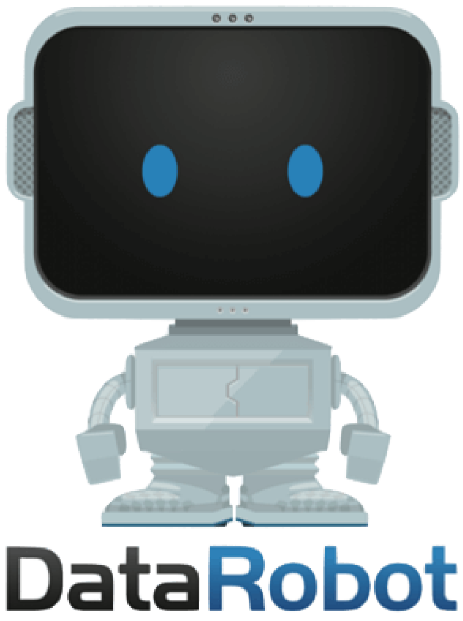
Total Equity Funding

$57.42M in 4 Rounds from 10 Investors

Most Recent Funding

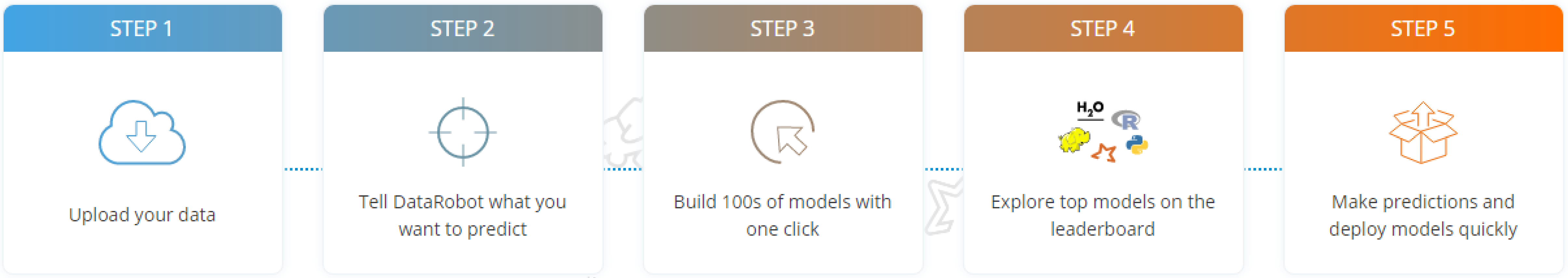
$33M Series B on February 11, 2016

Headquarters: Boston, Massachusetts



[https://angel.co/datarobot]

[https://www.crunchbase.com/organization/datarobot#/entity]



STEP 1 Upload your data

STEP 2 Tell DataRobot what you want to predict

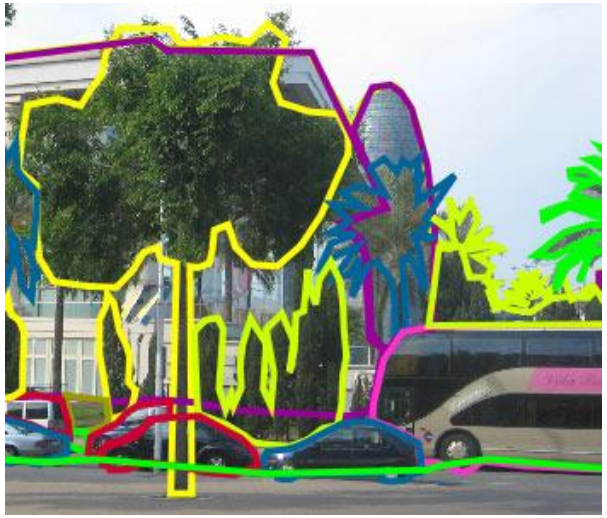
STEP 3 Build 100s of models with one click

STEP 4 Explore top models on the leaderboard

STEP 5 Make predictions and deploy models quickly

CrowdFlower

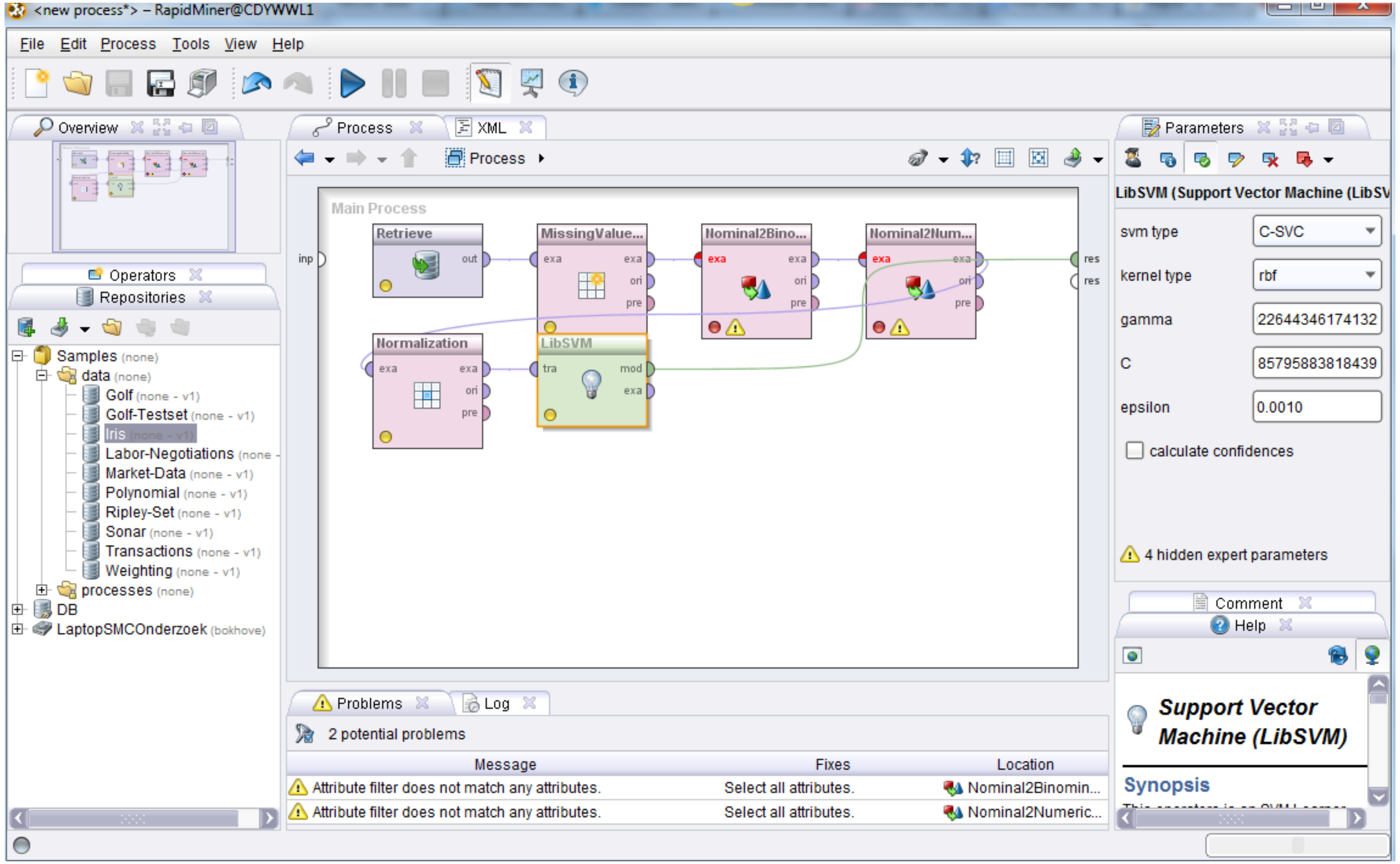
- SaaS (Software as a Service)
- Access to online workforce to of milions of people to clean, label, enrich data
- Similiar to Amazon Mechanical Turku



dataset LabelMe from MIT
[http://labelme.csail.mit.edu/Release3.0]

RapidMiner

- Cross – Platform
  - machine-learning
  - data mining
  - text mining
  - predictive analytics
  - business analytics
- Project at Dortmund Uni
- Ingo Miersva



LibSVM (Support Vector Machine (LibSV

svm type: C-SVC

kernel type: rbf

gamma: 22644346174132

C: 85795883818439

epsilon: 0.0010

□ calculate confidences

4 hidden expert parameters

Problems | Log

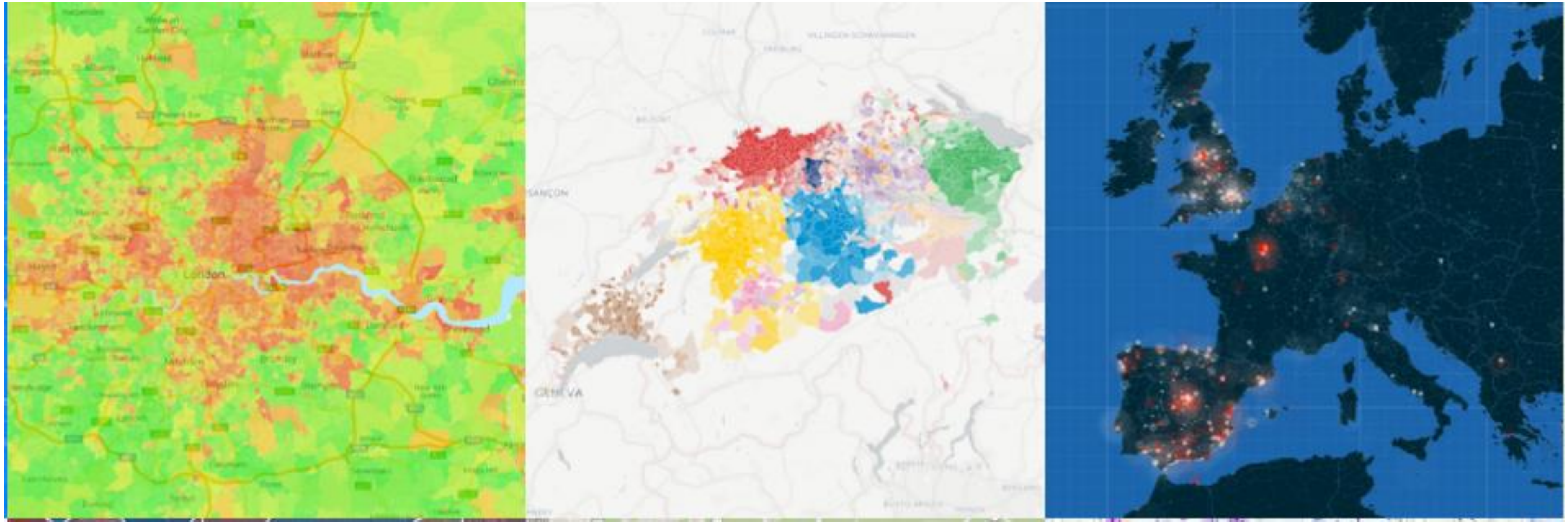
2 potential problems

Message	Fixes	Location
Attribute filter does not match any attributes.	Select all attributes.	Nominal2Binomin...
Attribute filter does not match any attributes.	Select all attributes.	Nominal2Numeric...

CartoDB.com

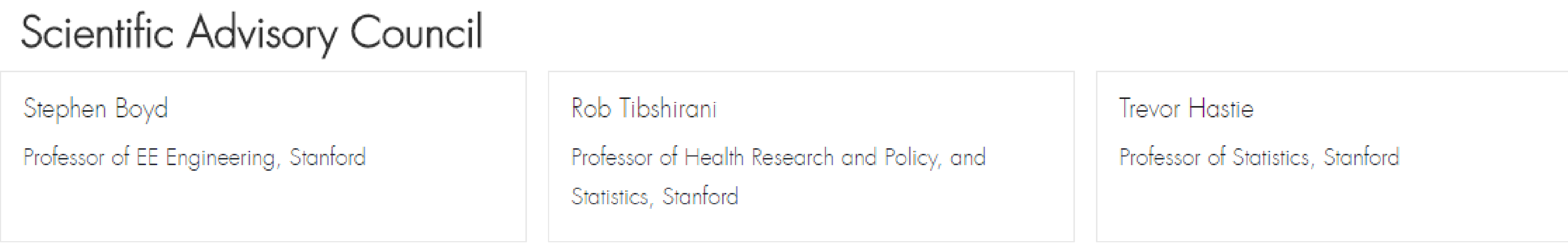
CARTODB

- SaaS cloud tool that provides GIS and web mapping
- Very effective visualizations with data filtering API



H_2O.ai

- OpenSource on R, Python and SPARK
- cool interface, speed & scalability



Scientific Advisory Council

Stephen Boyd

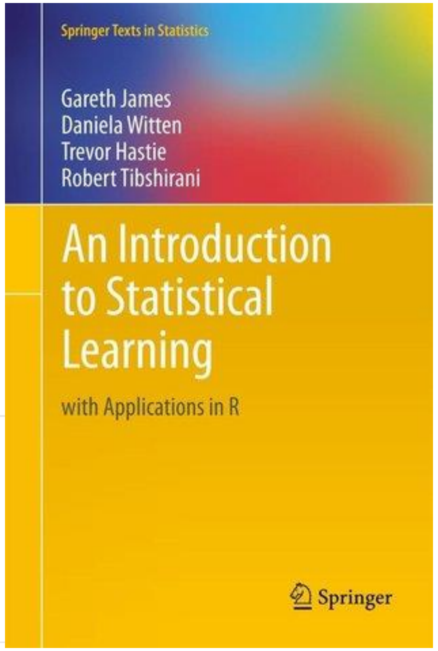
Professor of EE Engineering, Stanford

Rob Tibshirani

Professor of Health Research and Policy, and Statistics, Stanford

Trevor Hastie

Professor of Statistics, Stanford



Springer Texts in Statistics

Gareth James
Daniela Witten
Trevor Hastie
Robert Tibshirani

An Introduction to Statistical Learning

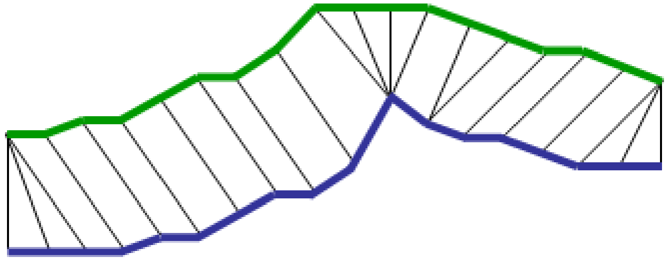
with Applications in R

Springer

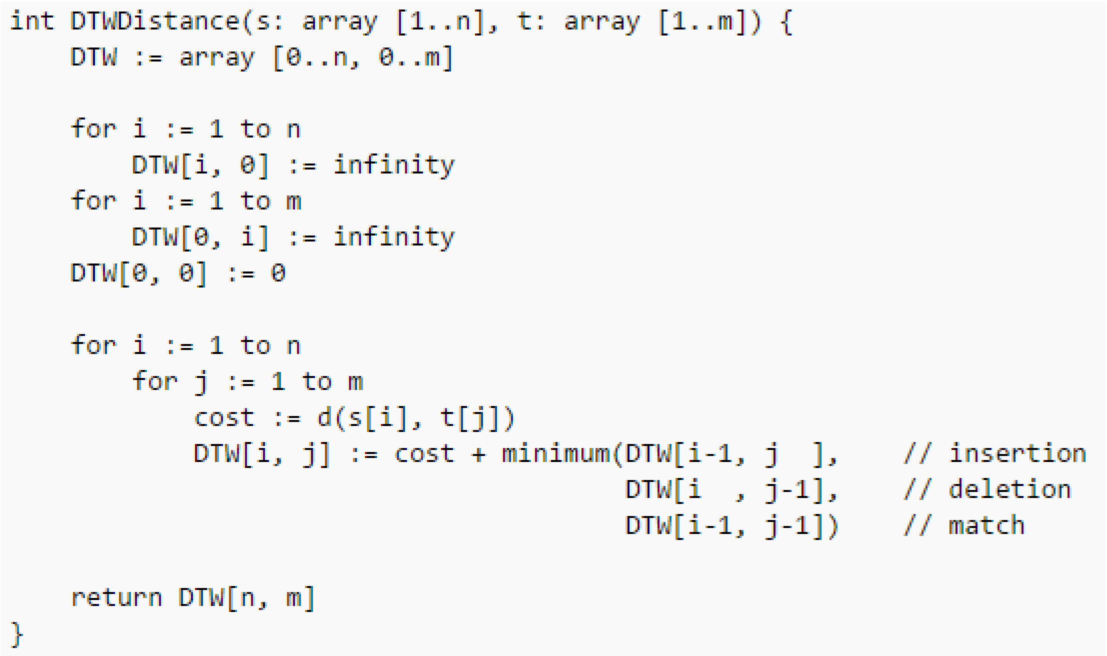
Others

- Pfizer
- Bokeh – NY taxi visualization
- Opendata (Chile)
- DTW (dynamic time warping) algorithm
- Medical data (open) https://health.data.ny.gov/
- Kdnuggets
- Kaggle
- Twitter data access – many tools

DTW (dynamic time warping)

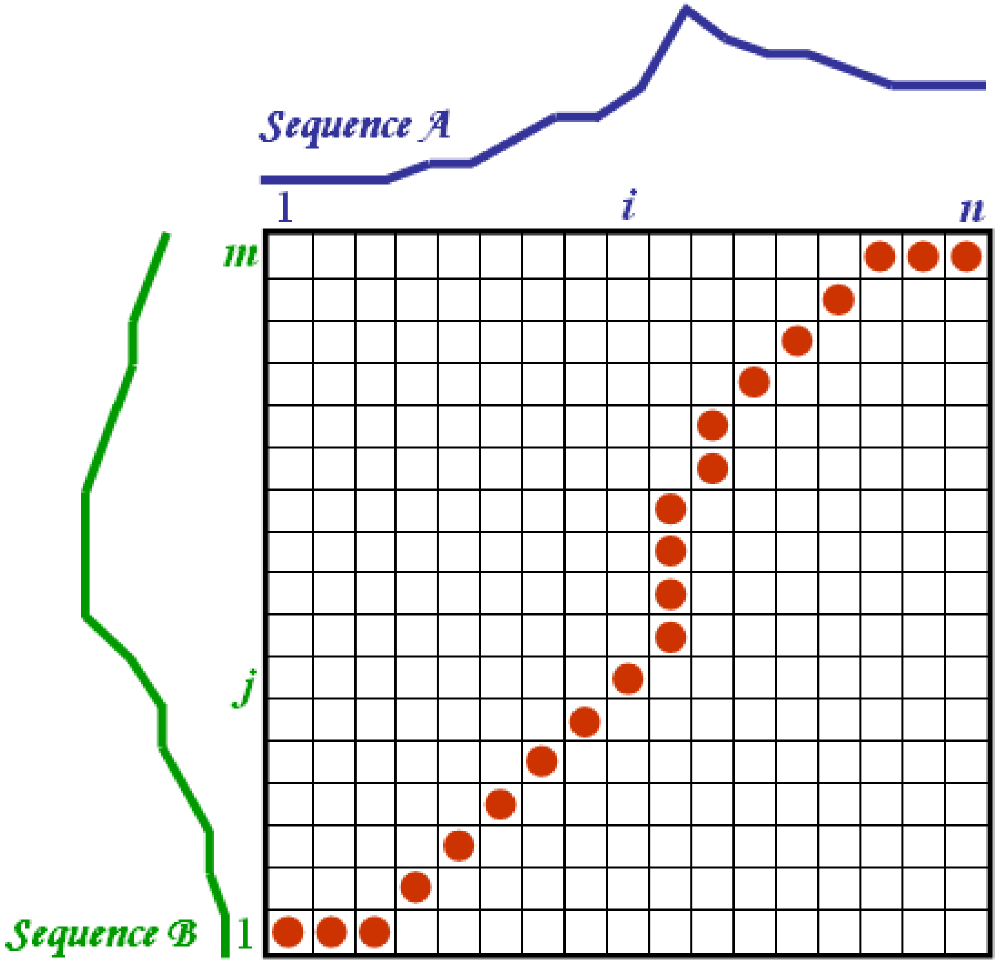


- For time series analysis problems

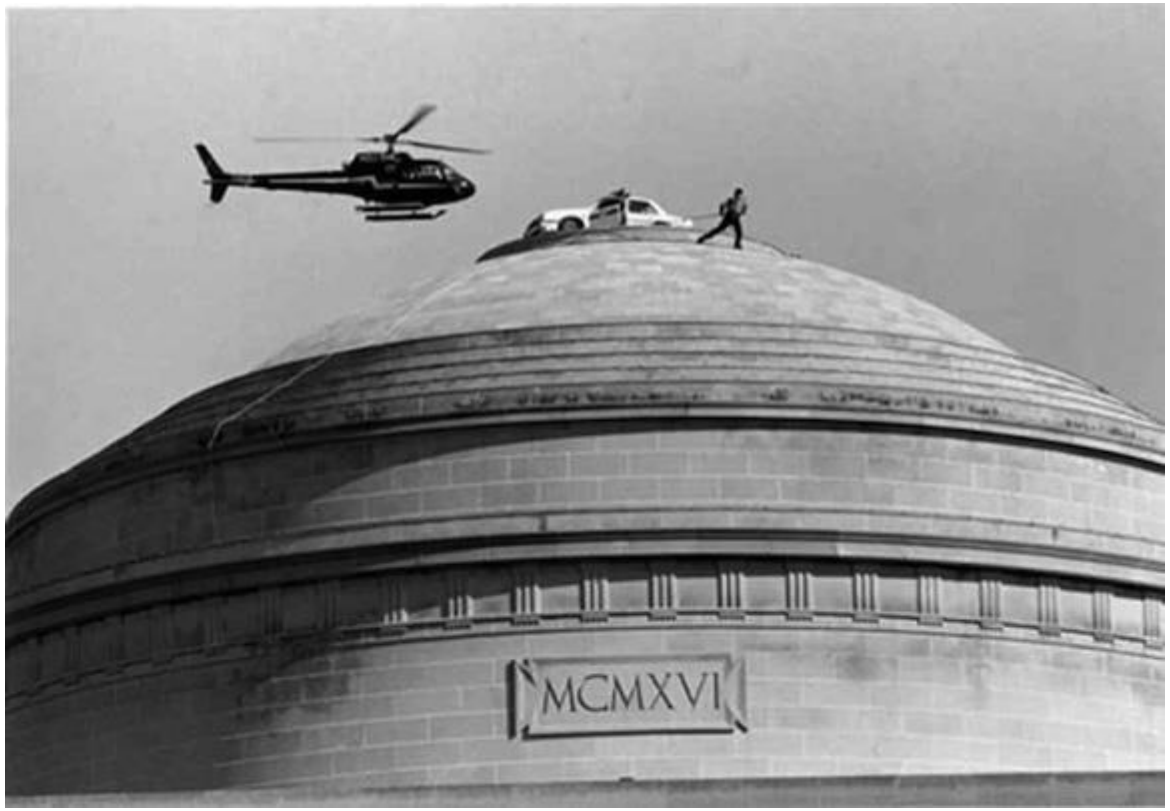


```
int DTWDistance(s: array [1..n], t: array [1..m]) {
    DTW := array [0..n, 0..m]

    for i := 1 to n
        DTW[i, 0] := infinity
    for i := 1 to m
        DTW[0, i] := infinity
    DTW[0, 0] := 0

    for i := 1 to n
        for j := 1 to m
            cost := d(s[i], t[j])
            DTW[i, j] := cost + minimum(DTW[i-1, j  ],    // insertion
                                        DTW[i  , j-1],    // deletion
                                        DTW[i-1, j-1])    // match

    return DTW[n, m]
}
```

[http://wearables.cc.gatech.edu/paper_of_week/DTW_myths.pdf]



MIT hacks



Links at the end

http://erum.ue.poznan.pl 12-14 October 2016, Poznań (Poland)

http://bigdatatech.pl 25 February 2016, Warsaw (Poland)