Detecting anomalies in huge Flow datasets

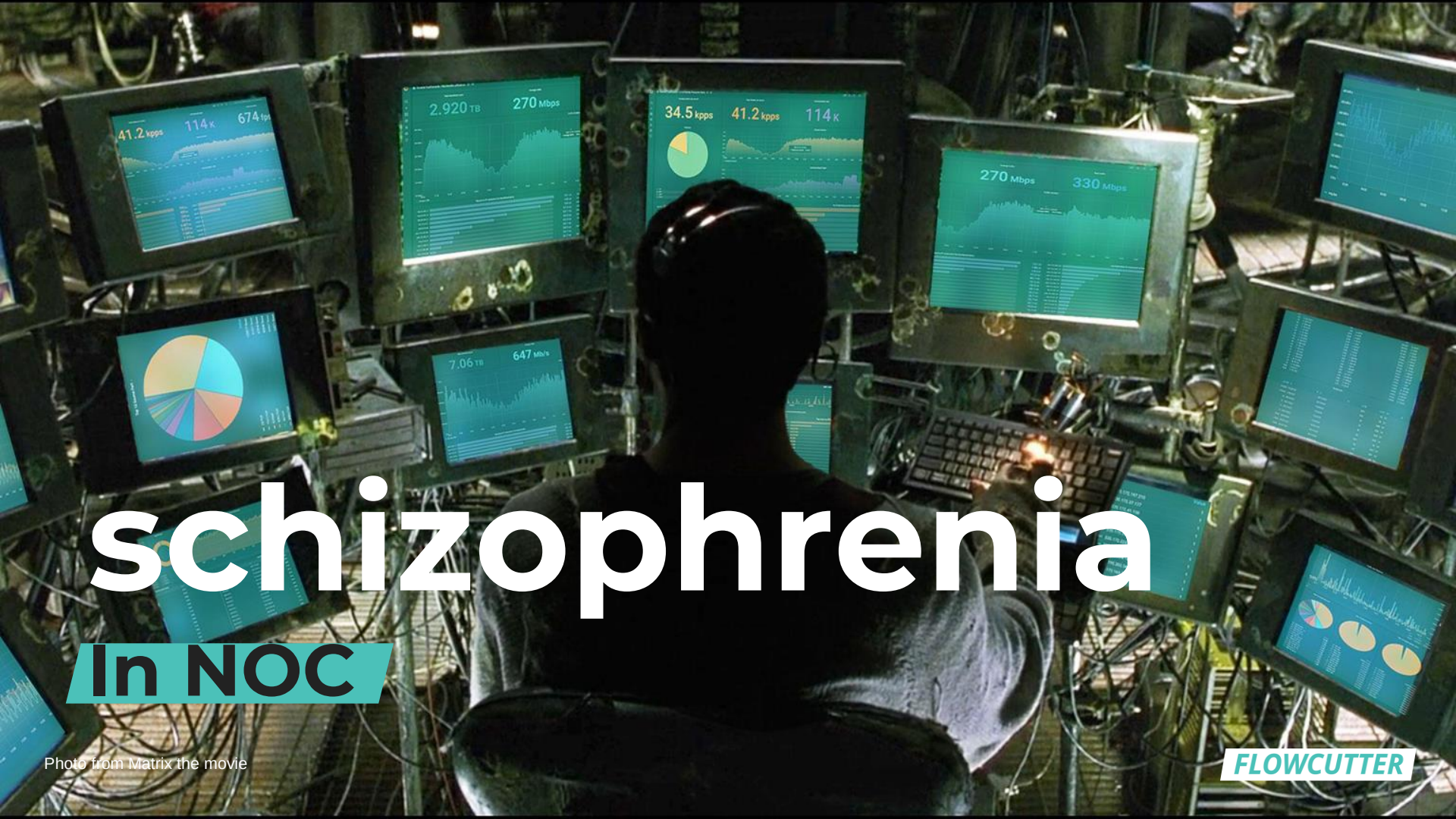
FLOWCUTTER

Mgr. Matej Pavelka PhD.


flow
telemetry?
Phto from Matrix the movie
FLOWCUTTER

5 ways a tool can suck

- Schizophrenia
- Cold coffee
- Size matters
- I have no mouth and I must scream
- Inevitable degradation

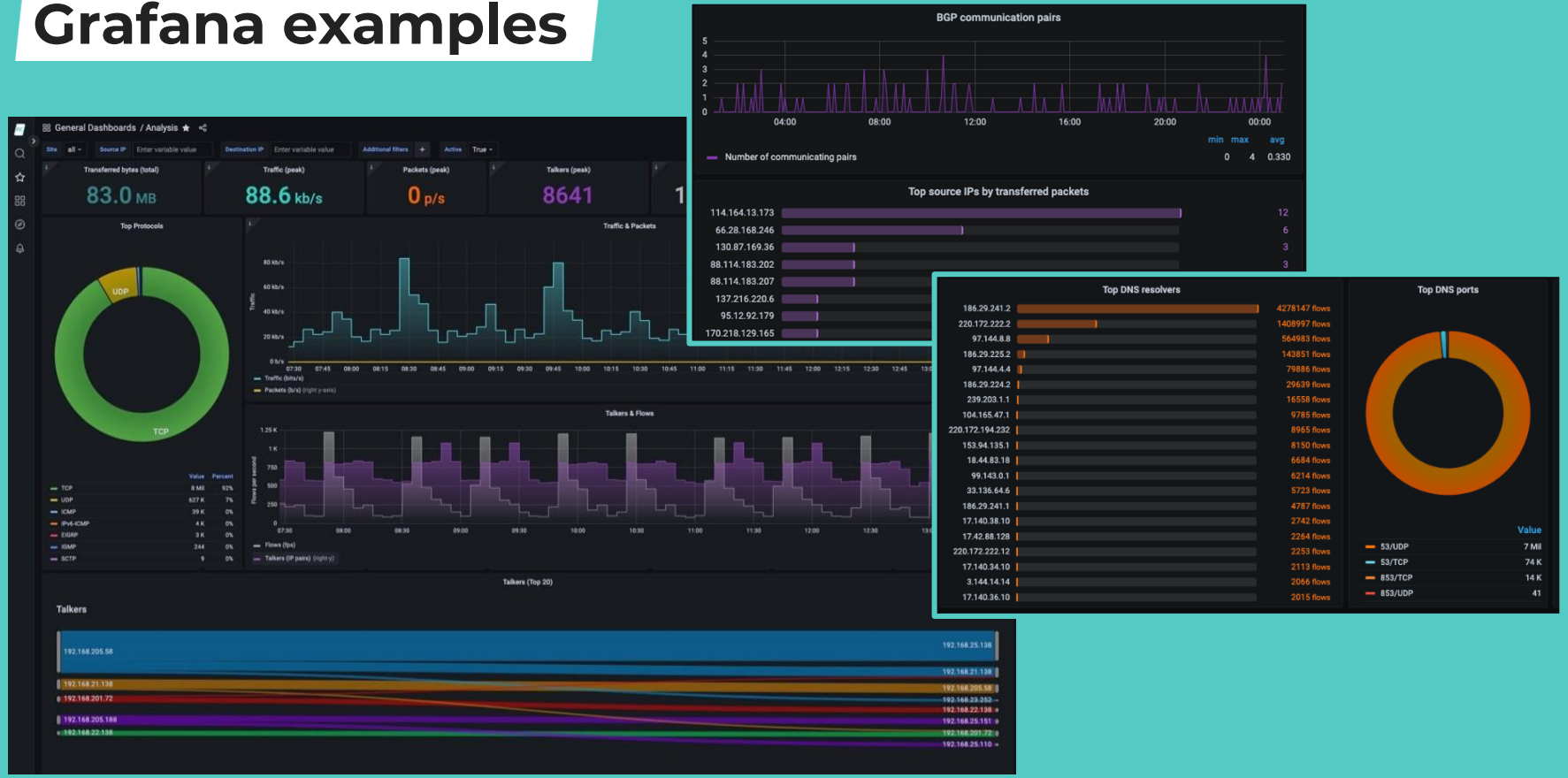

schizophrenia
In NOC
Photo from Matrix the movie
FLOWCUTTER


site
all
filter
Panel Title
Search:
sport
dport
proto
stime
etime
546.00 547.00 UDP 2021-06-02 11:24:43.982000 2021-06-02 11:54:40.440000
546.00 547.00 UDP 2021-06-02 10:54:32.508000 2021-06-02 11:24:13.178000
546.00 547.00 UDP 2021-06-02 10:24:24.670000 2021-06-02 10:54:24.572000
546.00 547.00 UDP 2021-06-02 09:53:38.573000 2021-06-02 10:23:25.106000
546.00 547.00 UDP 2021-06-02 09:23:31.083000 2021-06-02 09:52:57.031000
Panel Title
100
80
60
40
20
0
09:00
09:30
10:00
10:30
11:00
11:30
avg_bps
avg_bps_prevday
Panel Title
Value
213.195.223.16/UDP 2 Mil
81.30.226.13/UDP 2 Mil
213.195.223.14/UDP 2 Mil
81.30.226.12/UDP 1 Mil
81.30.226.14/UDP 1 Mil
217.66.163.24/UDP 1 Mil
157.240.30.21/UDP 1 Mil
157.240.30.63/UDP 1 Mil
213.195.224.131/UDP 969 K
81.30.241.154/UDP 881 K
213.195.224.212/UDP 797 K
213.195.223.59/UDP 739 K
94.230.149.146/UDP 732 K
213.195.194.185/UDP 720 K
35.214.151.58/UDP 644 K
213.195.223.10/UDP 620 K
213.195.222.222/UDP 588 K
217.66.163.108/UDP 577 K
213.195.223.30/UDP 556 K
213.195.205.168/UDP 541 K

Photo from twitter.com/billydracula/

FLOWCUTTER

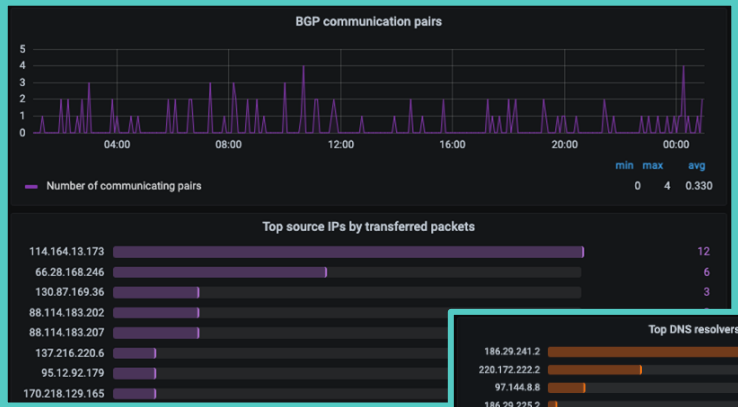
Grafana examples




20y, 100y ago
libs used to be like that
Photo from www.timessquarenyc.org
FLOWCUTTER


1M+fps
Flow records per second
Photo from www.timessquarenyc.org
FLOWCUTTER

Grafana examples



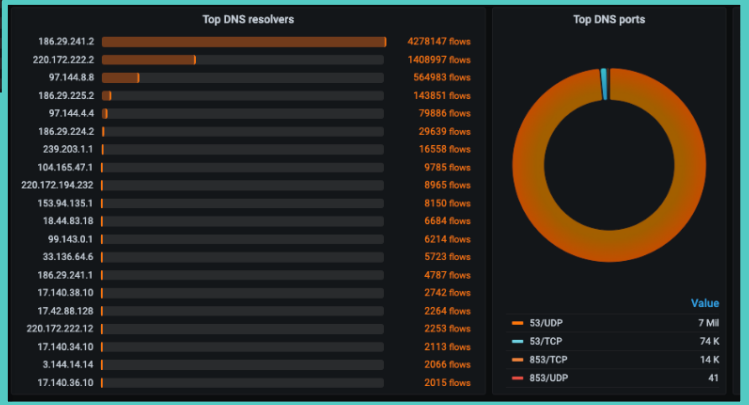


Photo from www.metricfire.com/blog/

Photo from thewertzone.blogspot.com

FLOWCUTTER

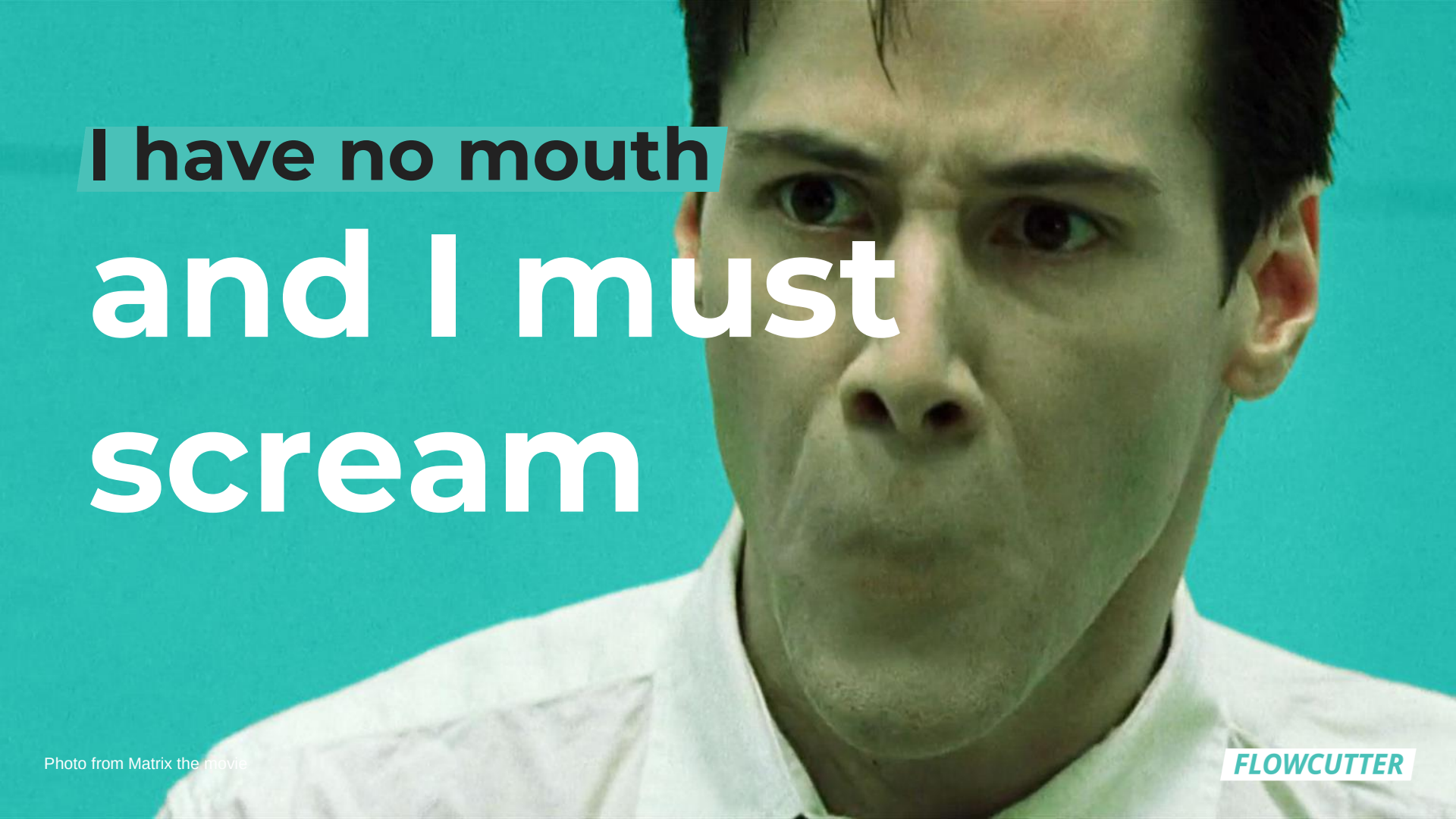


Photo from Matrix the movie

FLOWCUTTER


vendor
lock
time is the key
Photo from www.geocaching.com
FLOWCUTTER

Heatmaps
Peering matrix

FLOWCUTTER

degradation

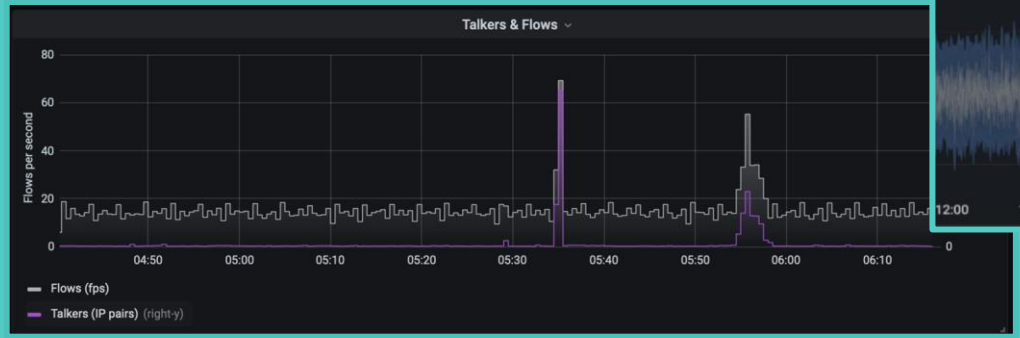
Is it inevitable?

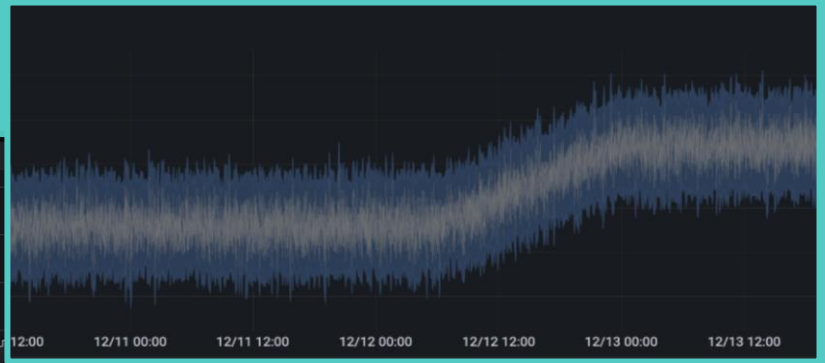
Photo from www.vice.com/

FLOWCUTTER

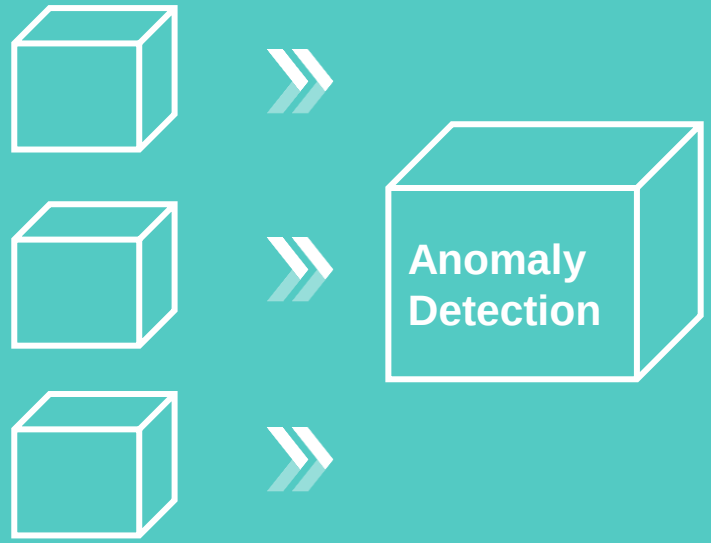
Link down

Spikes and shifts

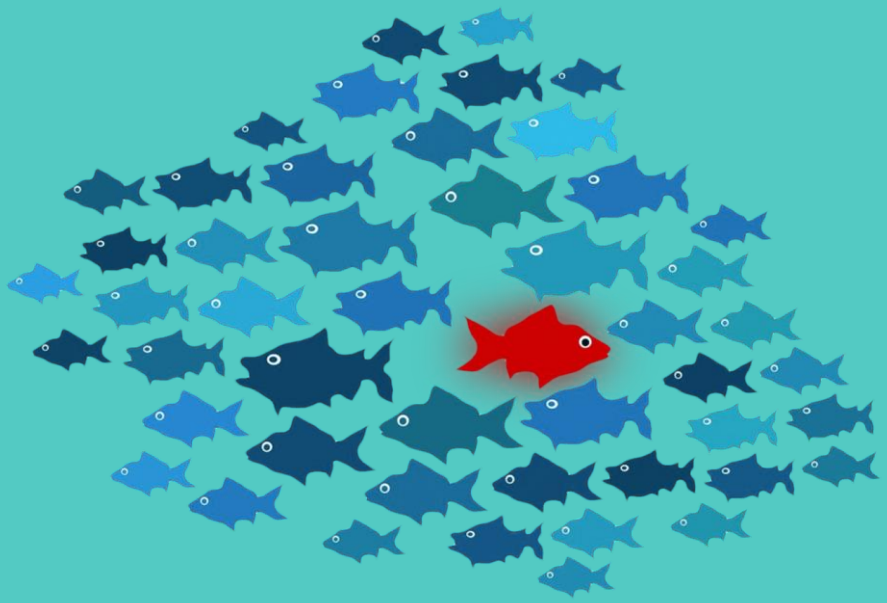




Anomalies not for humanz



Anomaly detection



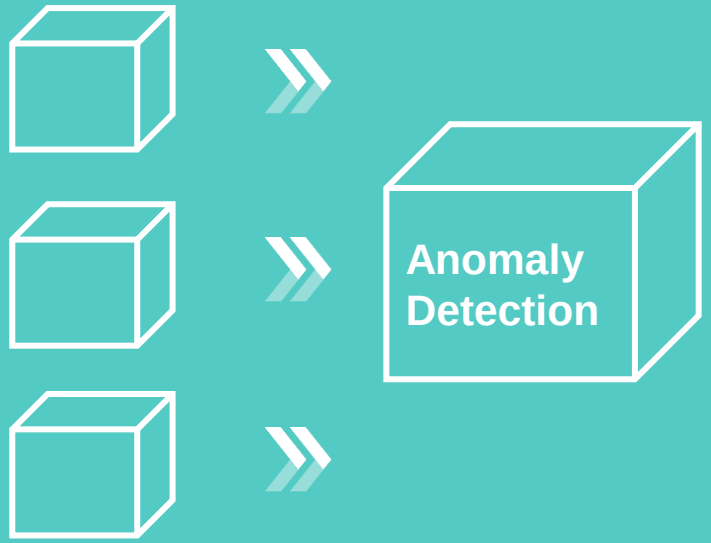


Photo from thedatascientist.com/

5 ways of solution

- **Schizophrenia** » unifyied frontend + customizable to your image
- **Cold coffee** » fast query on cardinal data
- **Cloning** » size matters, especially on 1M+fps
- **I have no mouth and I must scream** » open via API + shared data sources
- **Inevitable degradation** » anomaly detection lookout

60 mph

do you know?

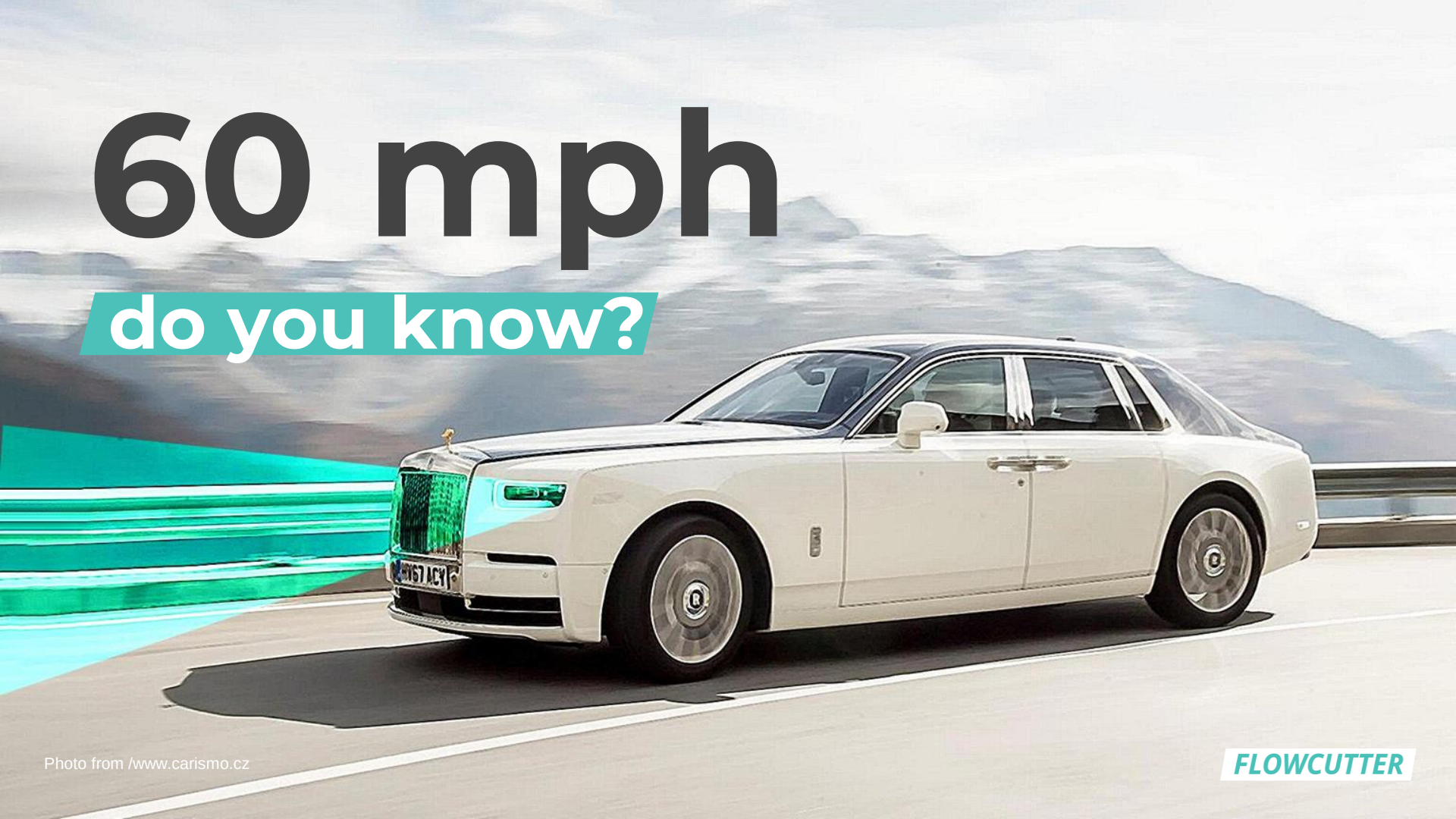


Photo from /www.carismo.cz

FLOWCUTTER


TOP
exp
добре, благодаря ти
thank you
www.flowcutter.com
Photo from www.sciencefocus.com/planet-earth
FLOWCUTTER