Anomaly was detected. What now?

user! 2019
Peter Brejcak, Data Scientist
Zenitude - Métropole
- **Serviced apartment**
- Toulouse, 2.2 miles to City centre
- **7.7 Good** (127 reviews)
  - Very good service · Very clean

ibis Toulouse Gare Matabiau Hotel
- **Hotel**
- Toulouse, 0.6 miles to City centre
- **8.1 Very good** (899 reviews)
  - Excellent location · Extremely clean
this anomaly was not detected and inspected (in trivago)

• granularity is too big (hotel, partner, country)
• many possibilities for changes in traffic
this anomaly was reported to trivago by xyzhotels.com

- huge increase of traffic (clicks)
- nobody has booked hotel (over 1000 clicks)
- “It’s fraud, isn’t it?”
“No fraud”, said statistician

- many data sources checked with many statistical methods
Ok, no fraud. But what is it?

- too many clicks, no bookings
no technical problem

- link to correct partner and hotel
- same price on trivago and on partner web
- no explanation by a/b testing
- no delay in response time
- no repeating
- no problems with technical logs
- no unusual settings
it’s coming from google

- majority comes from SEM
- let’s check google trends
what happened

- there was a TV show broadcasted in the UK starring 5* Caribbean ‘abc hotel’
why xyzhotels.com couldn’t understand their data

• xyzhotels.com was not on google first page
• trivago was on google first page
• xyzhotels.com was on trivago first page
learning

• for xyzhotels.com: we can trust trivago
• for trivago: anomaly explained, considering changes
learning

- for xyzhotels.com: we can trust trivago
- for trivago: anomaly explained, considering changes
- for mathematicians & statisticians & data scientist & data analyst:
  - mathematics knowledge alone is not valuable
  - learn about your business, goals
that’s all

• thanks a lot
• you can ask me for details personally
• we are hiring