Anomaly was detected. What now?

user! 2019

Peter Brejcak, Data Scientist

trivago

Price / night   €500+
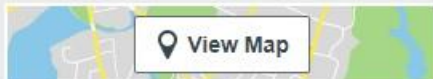
Hotel
⭐ Stars: 3-5 ⌄

Guest rating
7.5+ ⌄

Hotel location
City centre ⌄

More filters
Select ⌄

📍 **View Map**

Sort by Price only ⌄

How payments to us affect ranking ⓘ

Zenitude - Métropole
⭐⭐⭐ Serviced apartment

📍 Toulouse, 2.2 miles to City centre ⌄

7.7 Good (127 reviews)
Very good service · Very clean

1 / 30

MarieCurieVoyages
€57

Fermat's Last
Hotel.com
€57

Epsilon & Alpha
€62

More deals from
€50 ⌄

-24%

useRhotel.com
~~€69~~

MathHotels.org
€52
3 nights for €157

View Deal ›

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ibis Toulouse Gare Matabiau Hotel
⭐⭐⭐ Hotel

📍 Toulouse, 0.6 miles to City centre ⌄

8.1 Very good (899 reviews)
Excellent location · Extremely clean

1 / 30

Fourier
accomodation
€57

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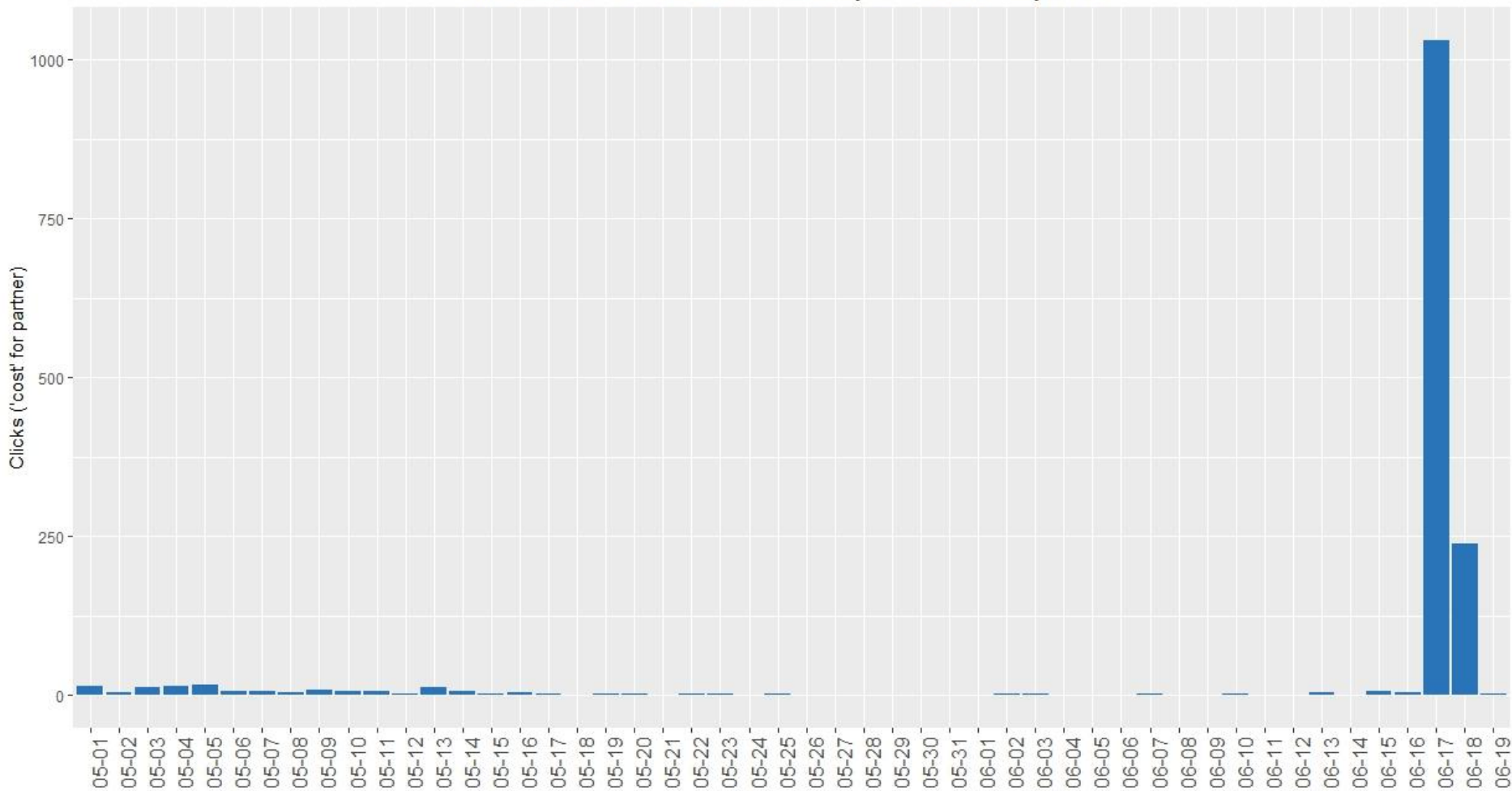More deals from
€57 ⌄

⟳ Ideal time to book

xyzhotels.com
€57
3 nights for €172

View Deal ›

Time series for clicks for 'abc hotel' on xyzhotels.com - May + June

this anomaly was not detected and inspected (in trivago)

- granularity is too big (hotel, partner, country)

- many possibilities for changes in traffic

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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

trivago

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
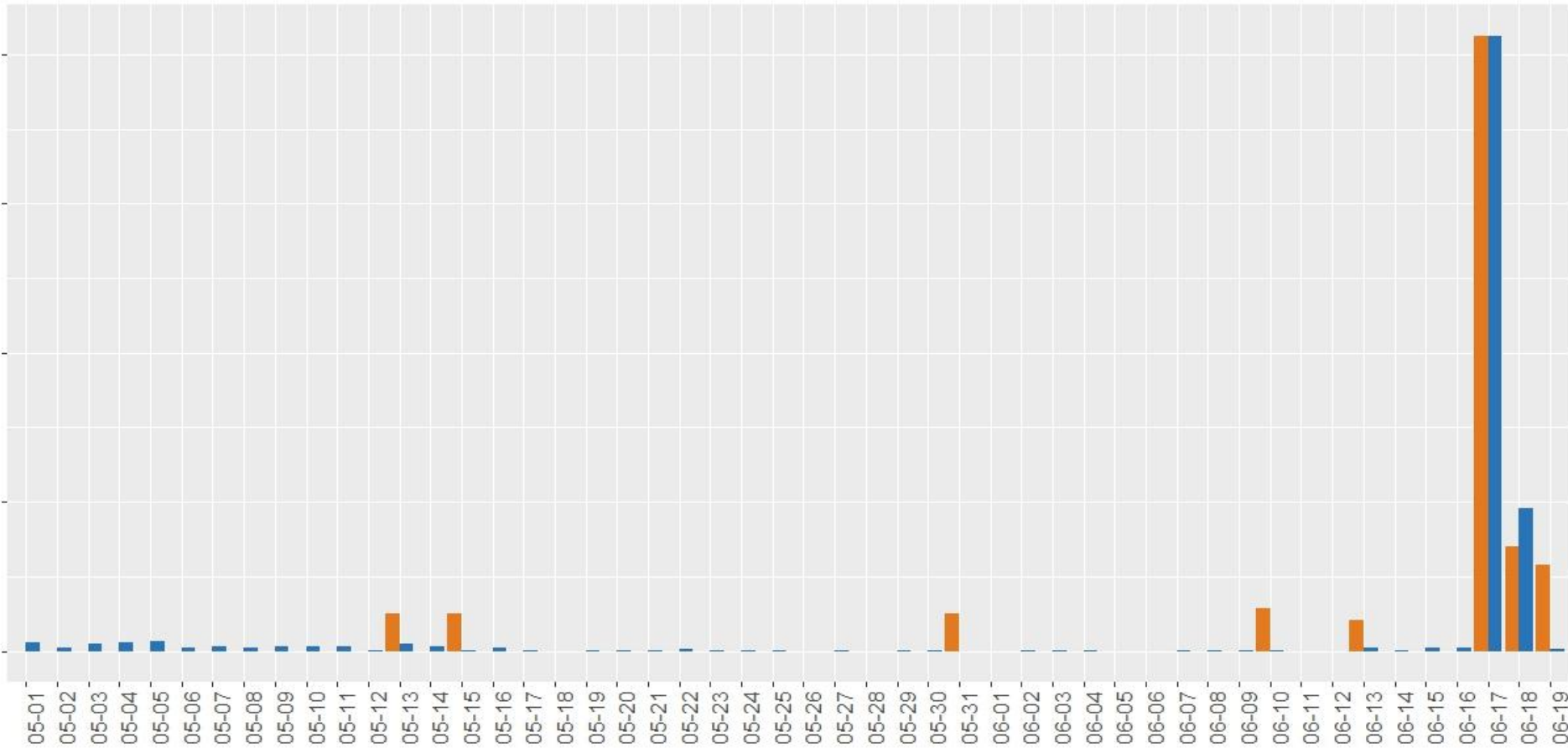
- no unusual settings

it's coming from google

- majority comes from SEM
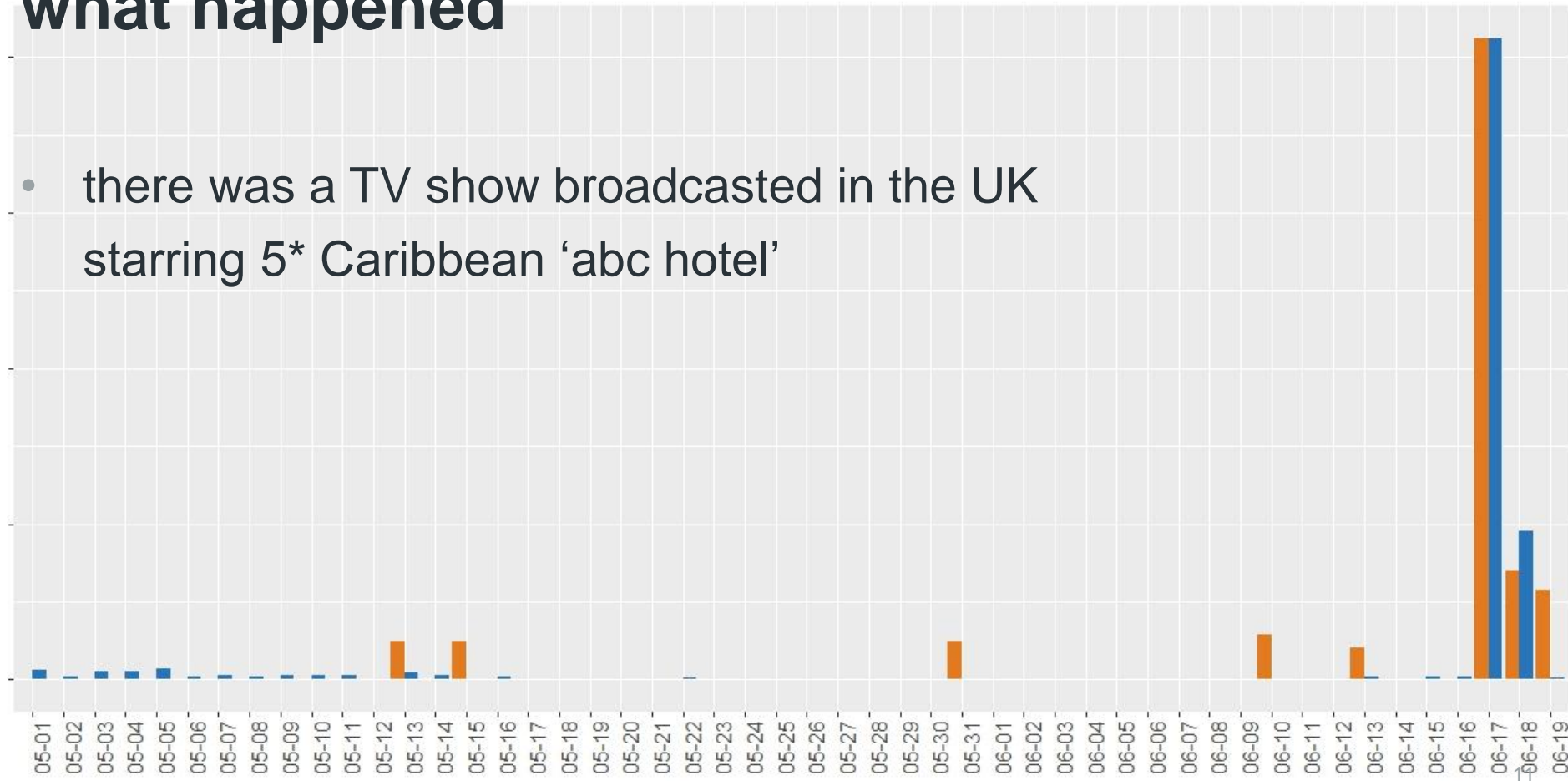
- let's check google trends

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'abc hotel' - google search vs. trivago clicks xyzhotels.com

'abc hotel' searched on google (bit.ly/2x4HsFO) ■ trivago clicks for 'abc hotel' on xyzhotels.com
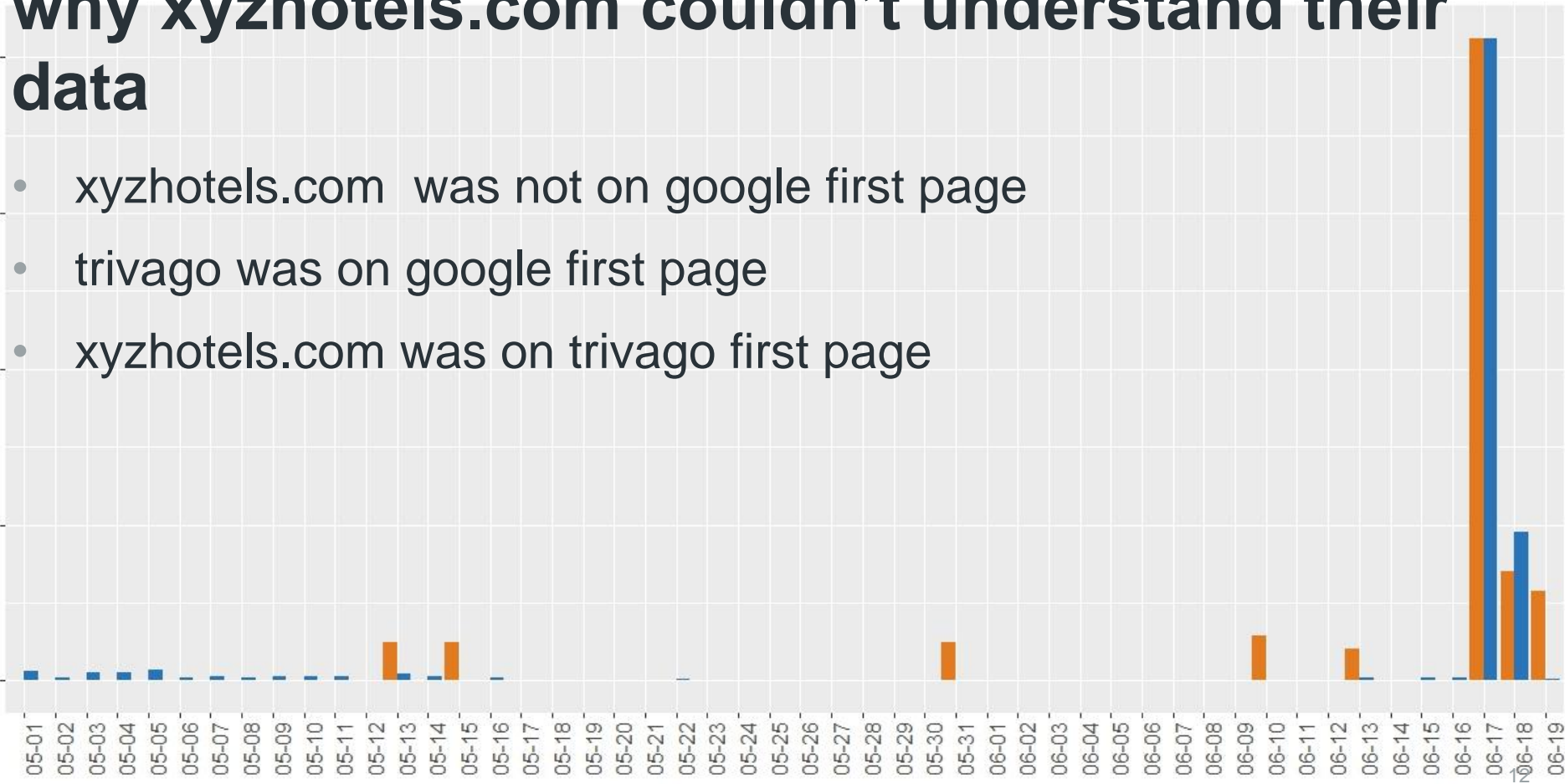
what happened

- 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

trivago

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

trivago