

Hello!

I am Sabine

Hello!

I am Sabine



Hello!

I am Sabine



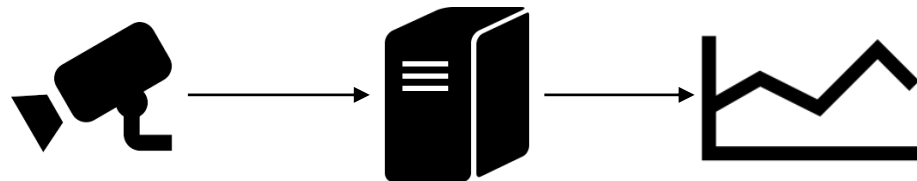
Hello!

I am Sabine



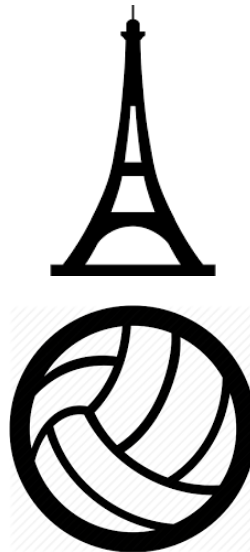
Hello!

I am Sabine



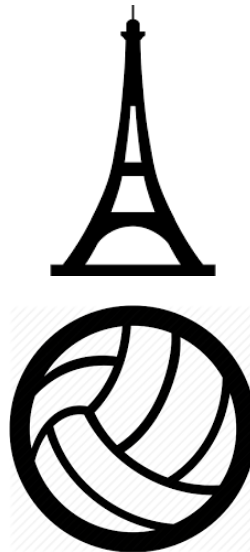
Hello!

I am Sabine



Hello!

I am Sabine



Use Case

**How
surroundings
impact sales?**

The end goal

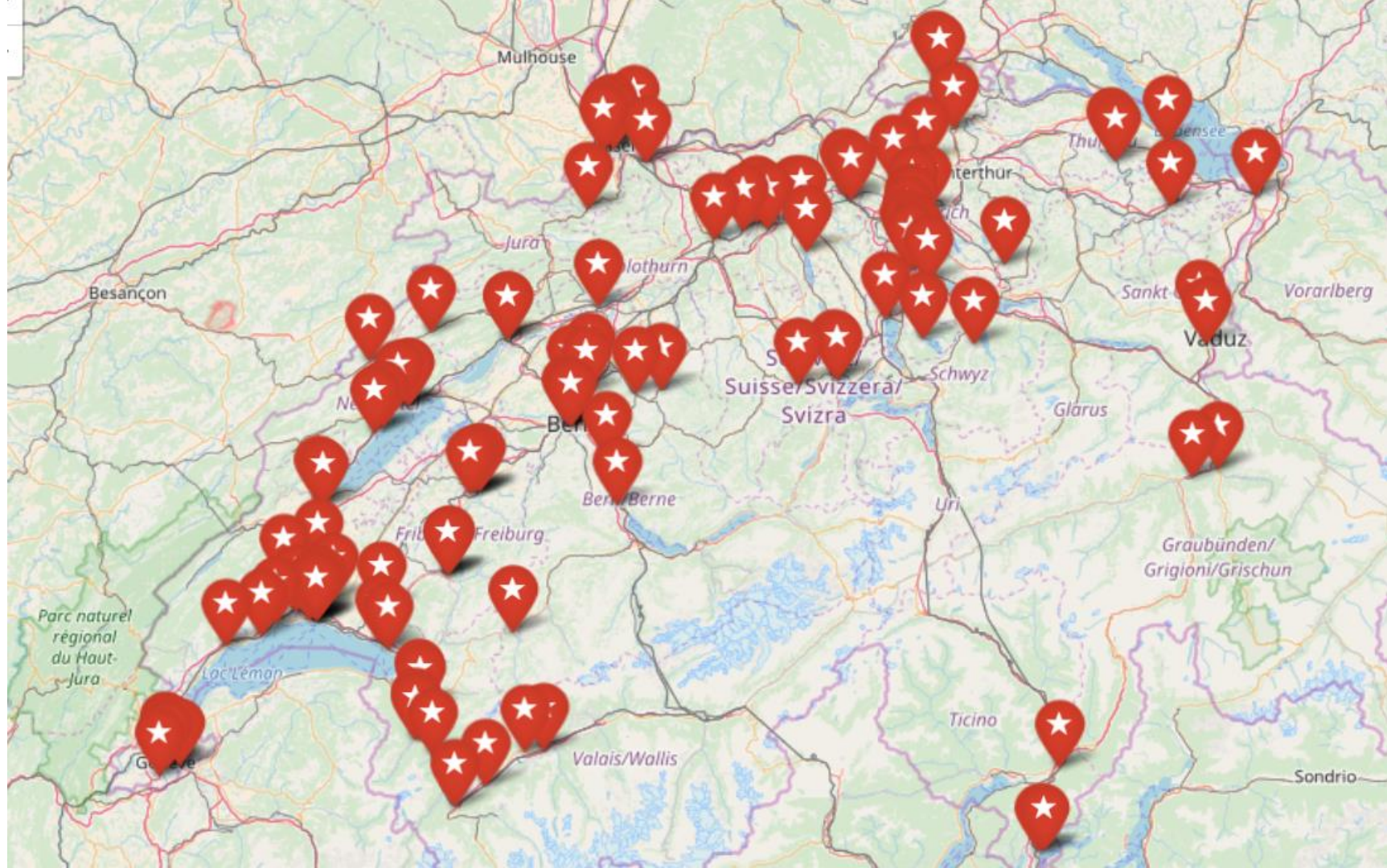
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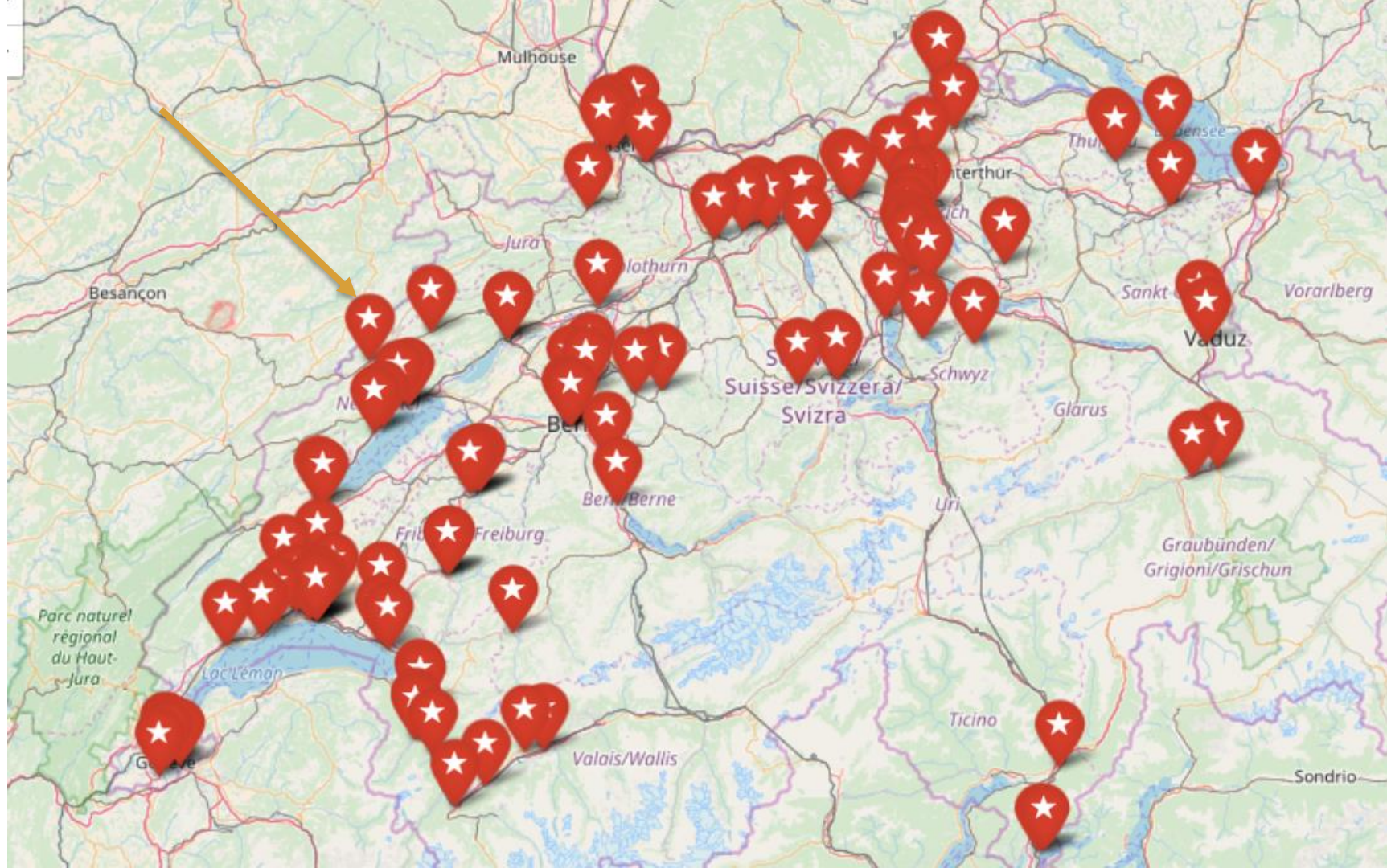
Maximizing sales

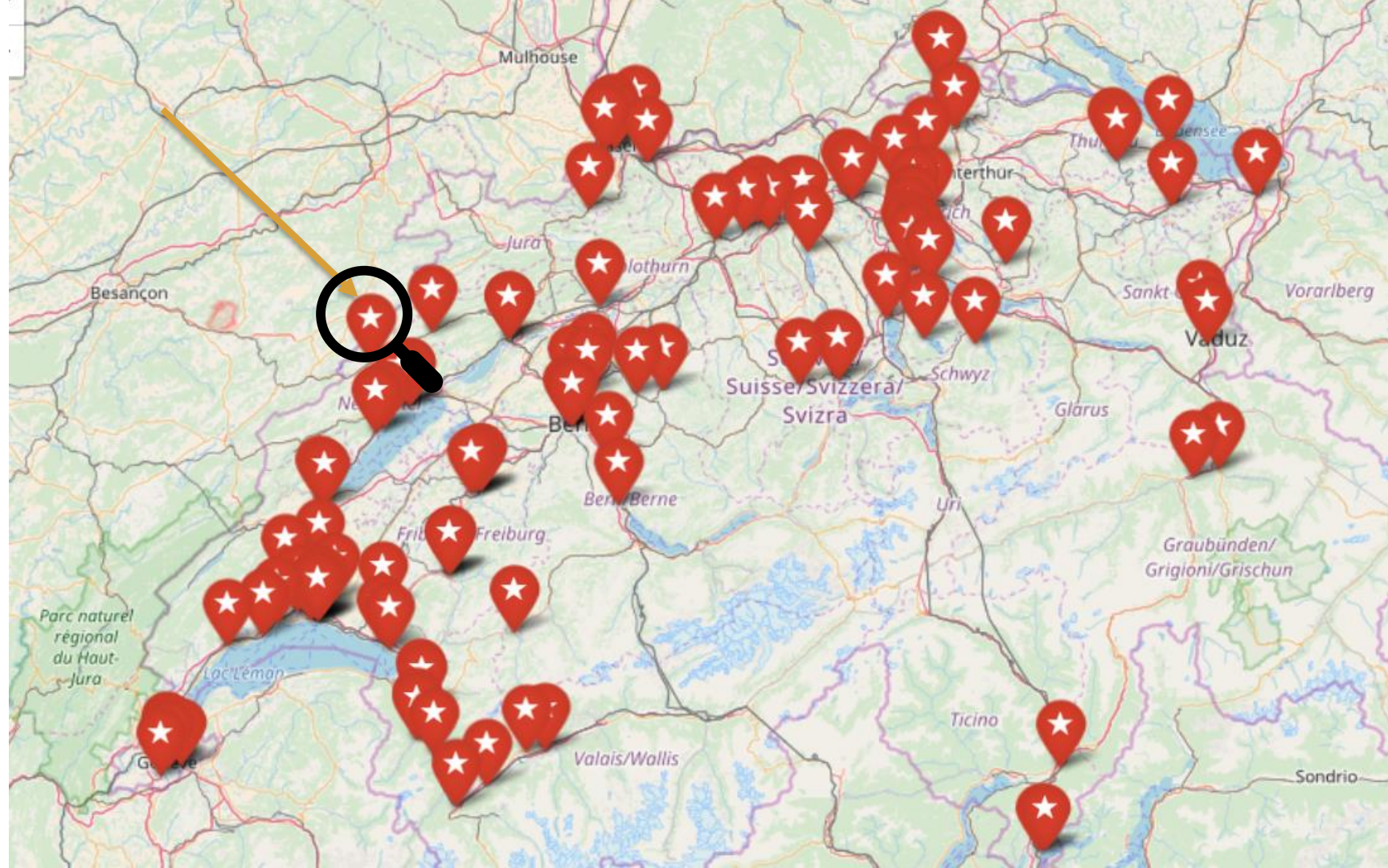


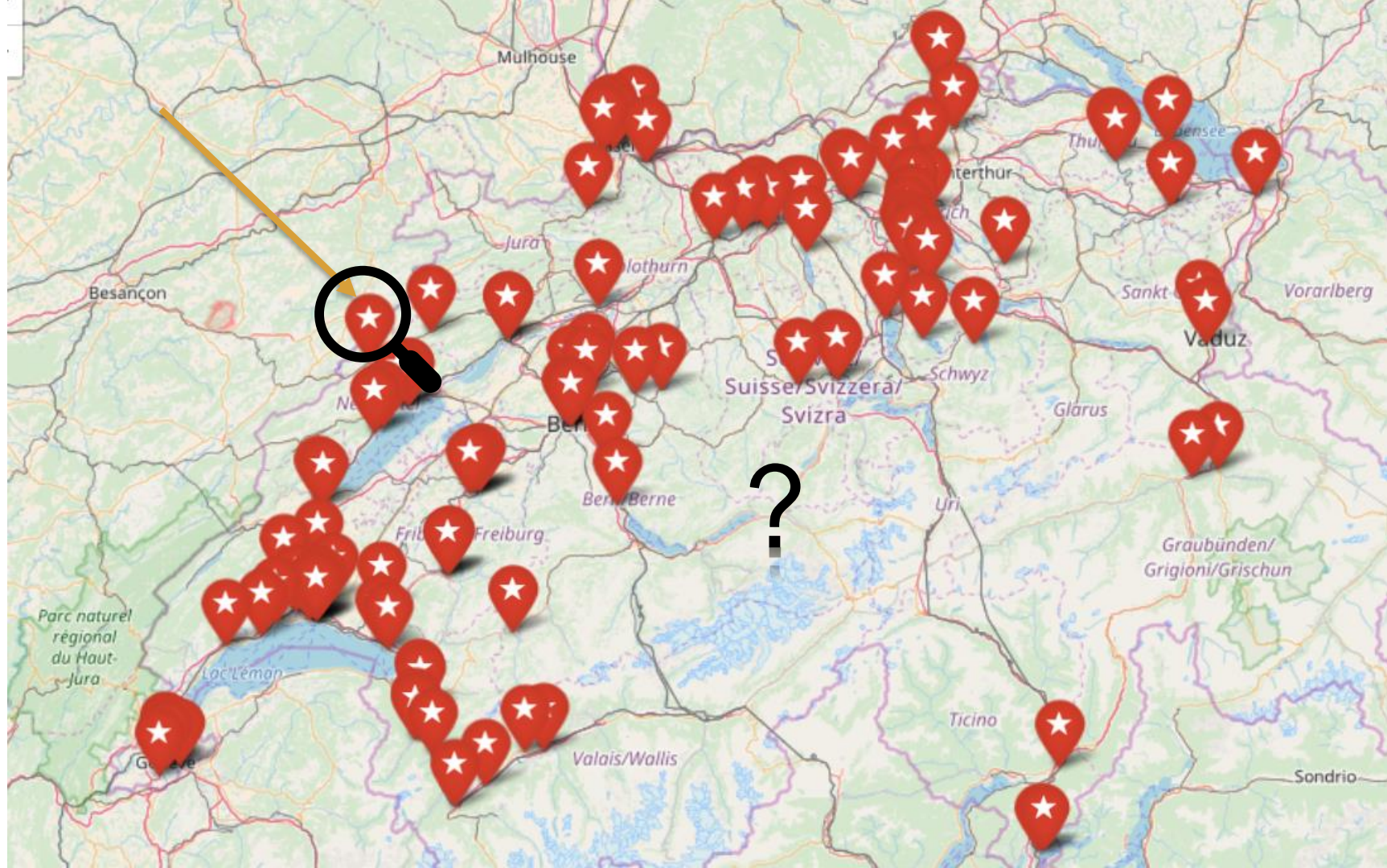
The end goal

Maximizing sales









The 10 best POS represents

56,9%

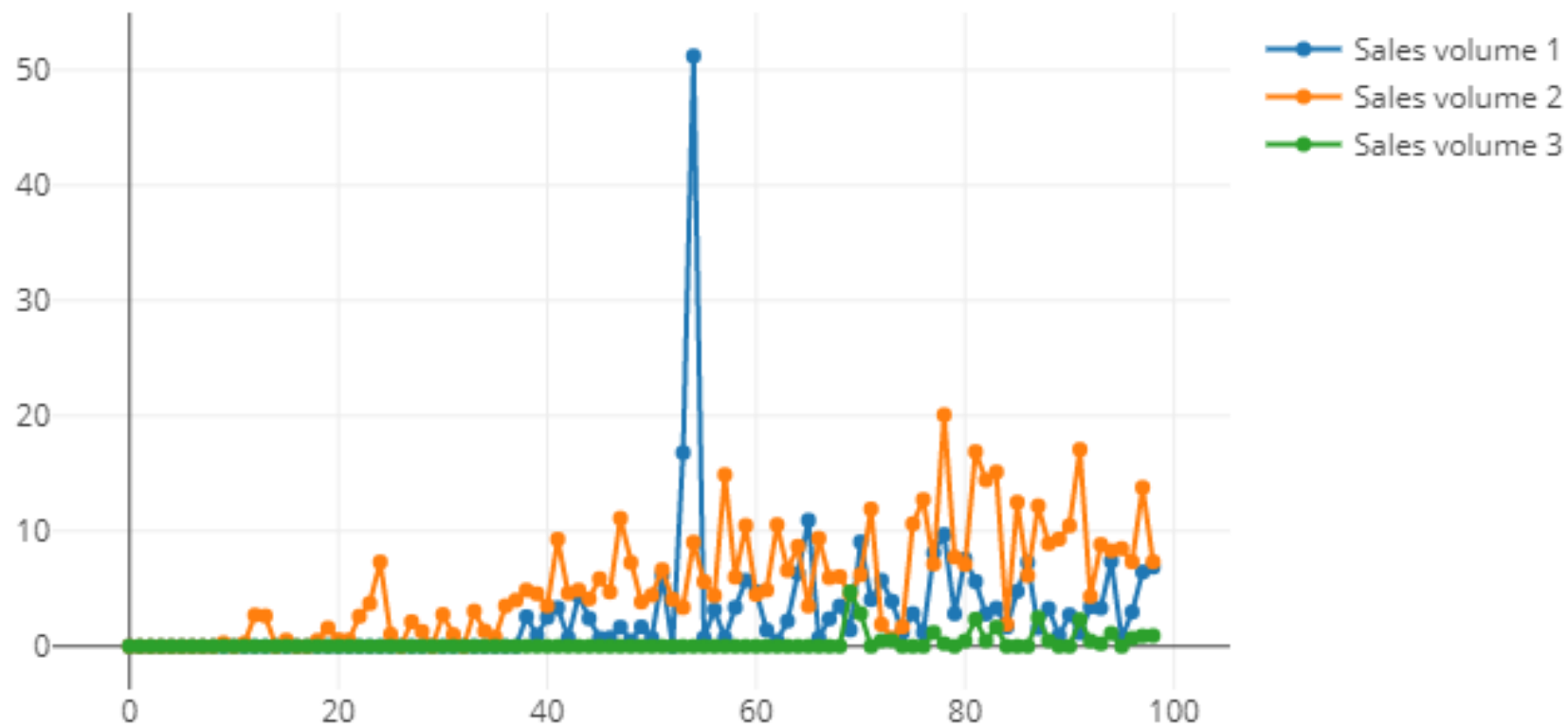
of the other POSs' sales

POS

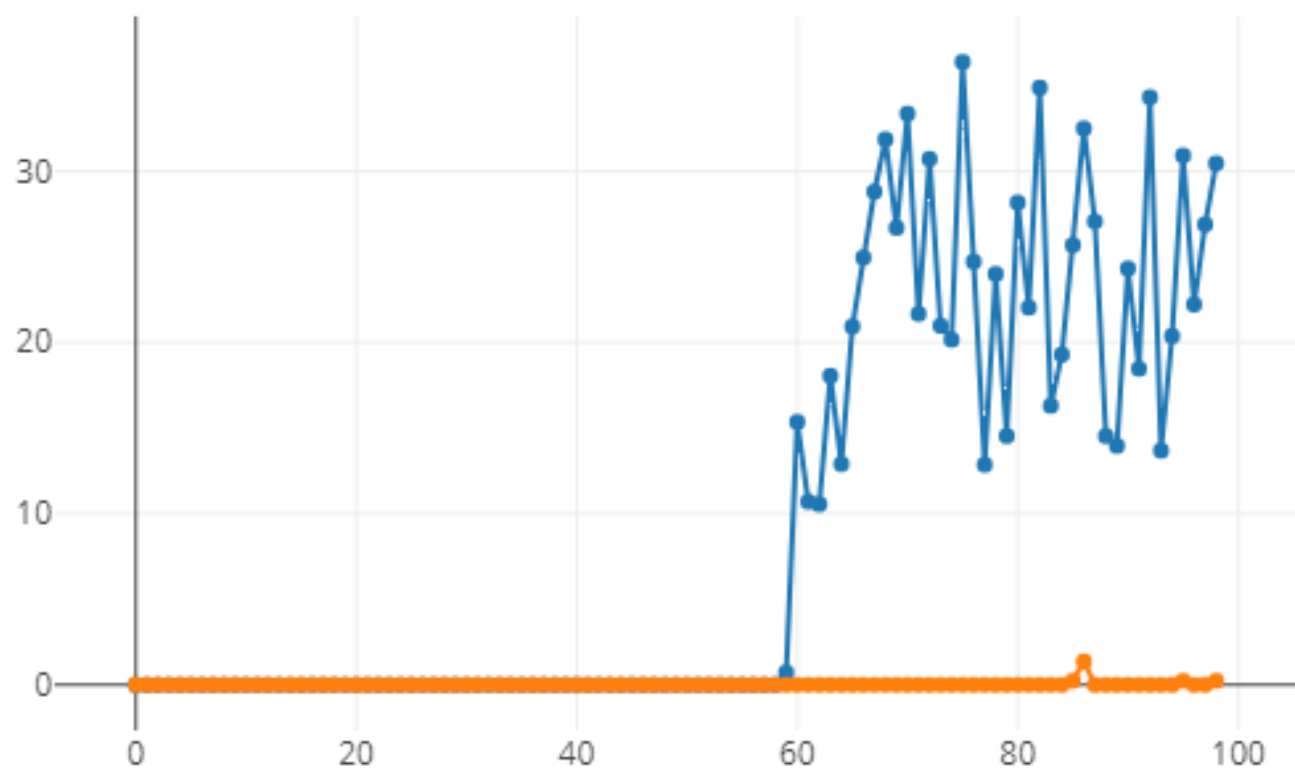
Restructuration

By looking for good surroundings and
avoiding bad ones

Raw time series



Raw time series





Strategy

- Moving not profitable POS
- Smartly locate new POS
- Global POS position strategy

We want to use surrounding amenities to empower sale force

More information from the web

- For each POS, we have information on surroundings

Philip Morris International Management SA ★

4,0 ★★★★★ 12 Google reviews

Manufacturer in Lausanne, Switzerland

Website

Directions

Address: Avenue de Rhodanie 50, 1007 Lausanne

Phone: 058 242 00 00

[Suggest an edit](#) · [Own this business?](#)

Add missing information

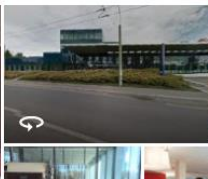
[Add business hours](#)

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Questions & answers

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Ask a question



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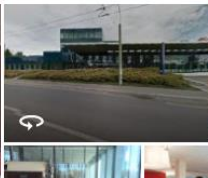
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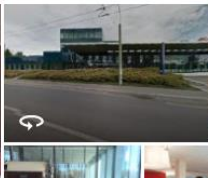
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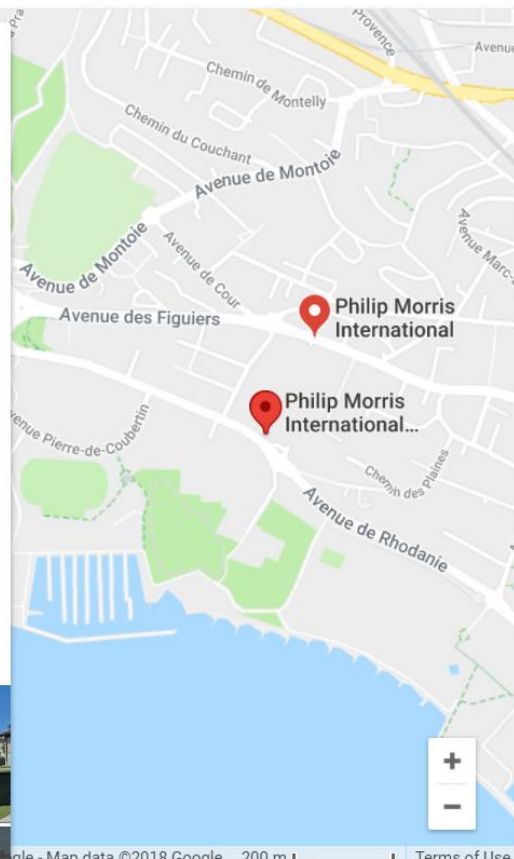
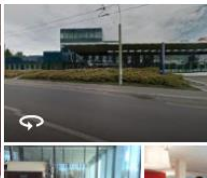
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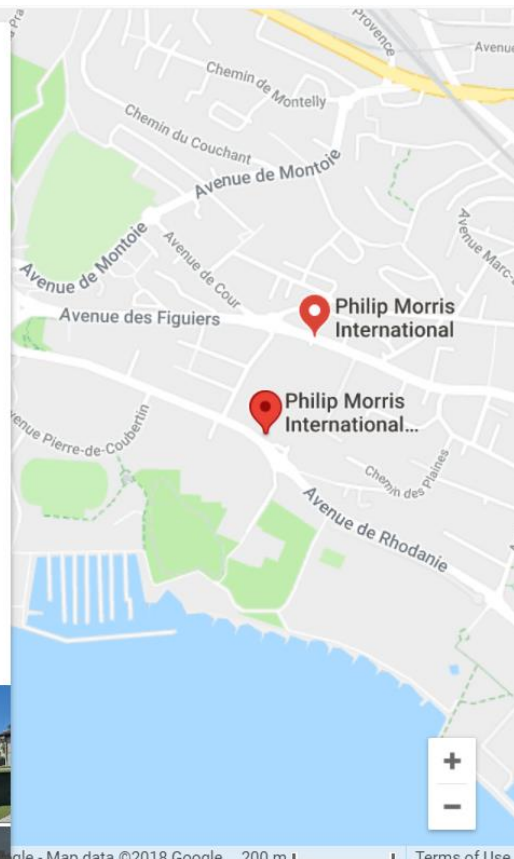
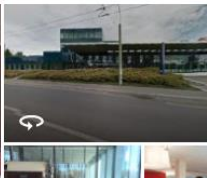
[Add business hours](#) ?

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Extract features from the web

- All this information is contained in a JSON file
 - Need to extract useful information

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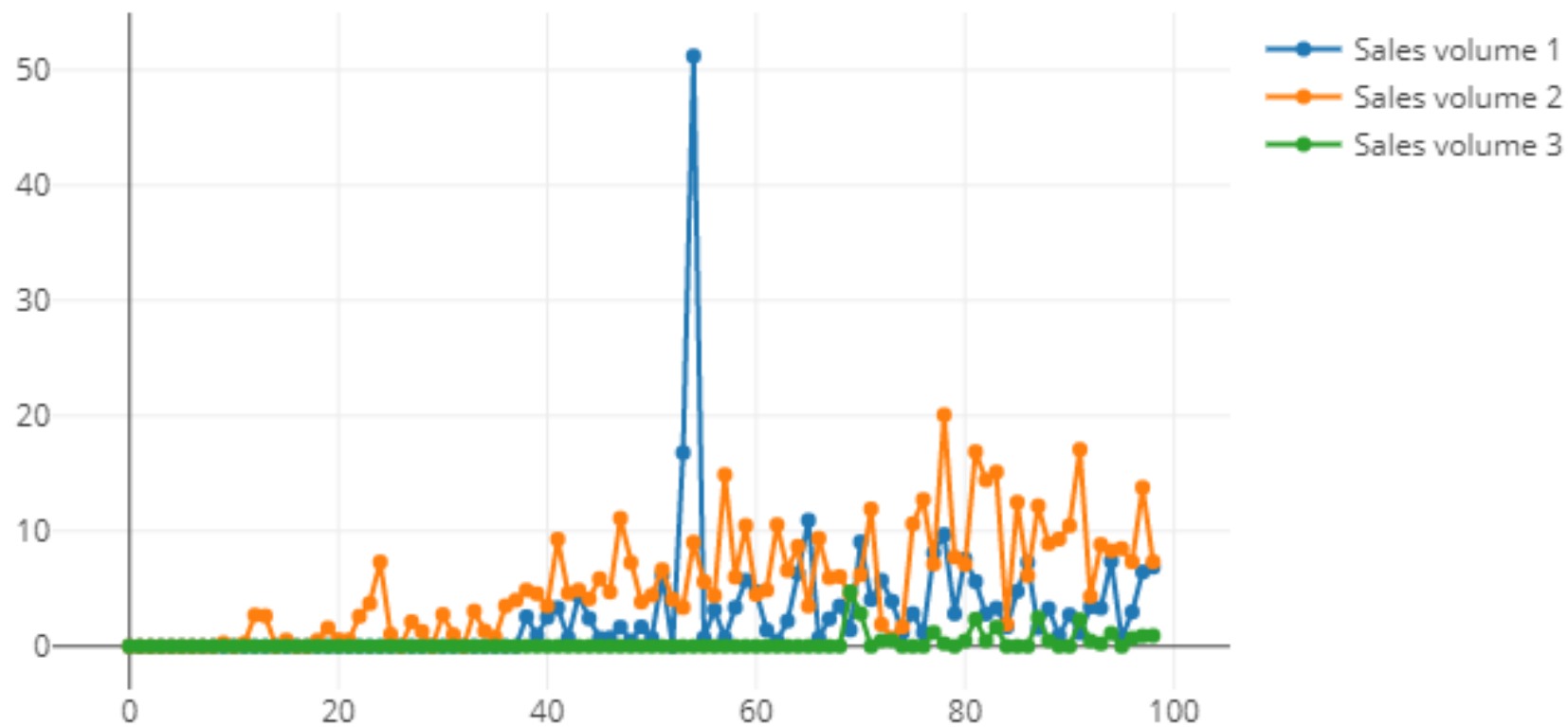


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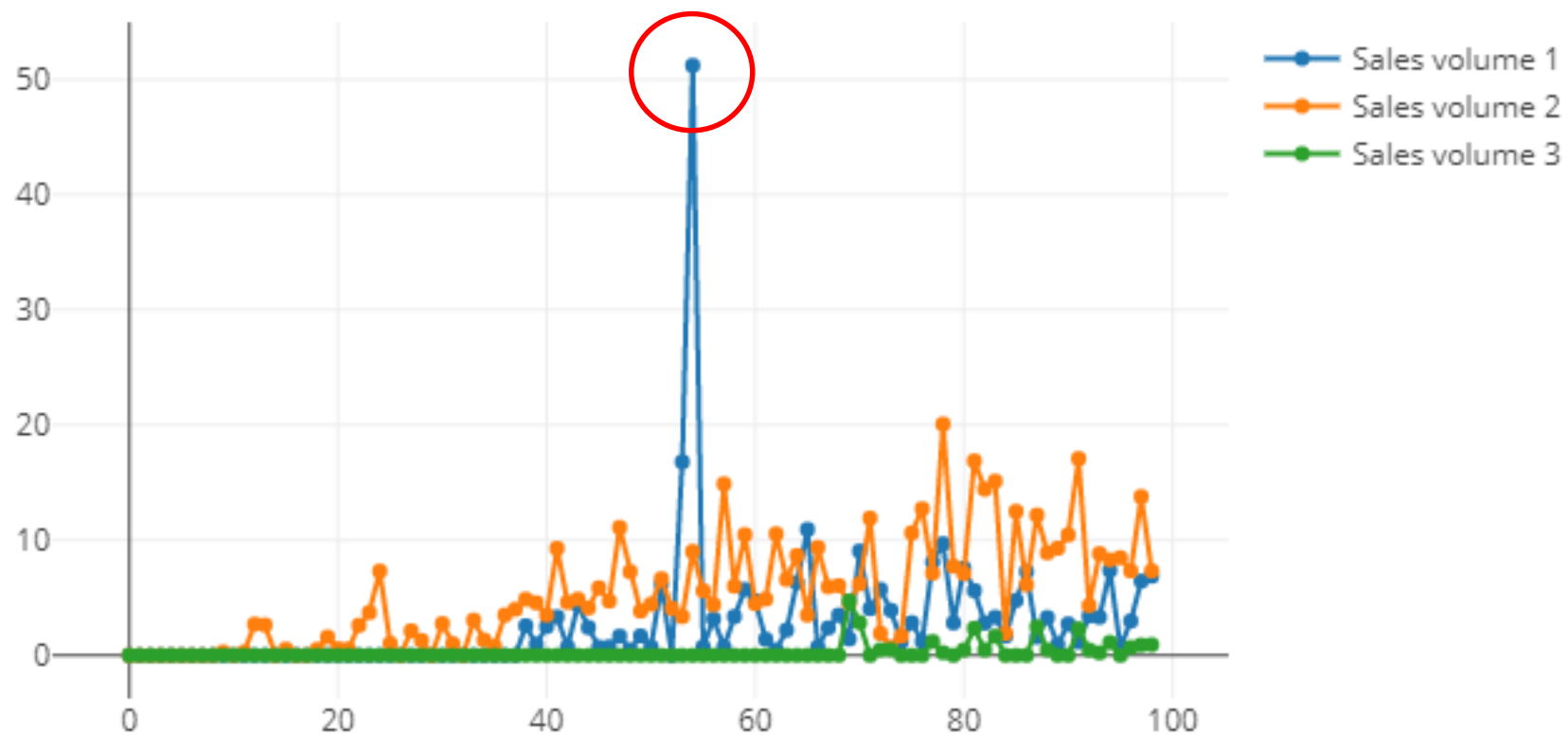


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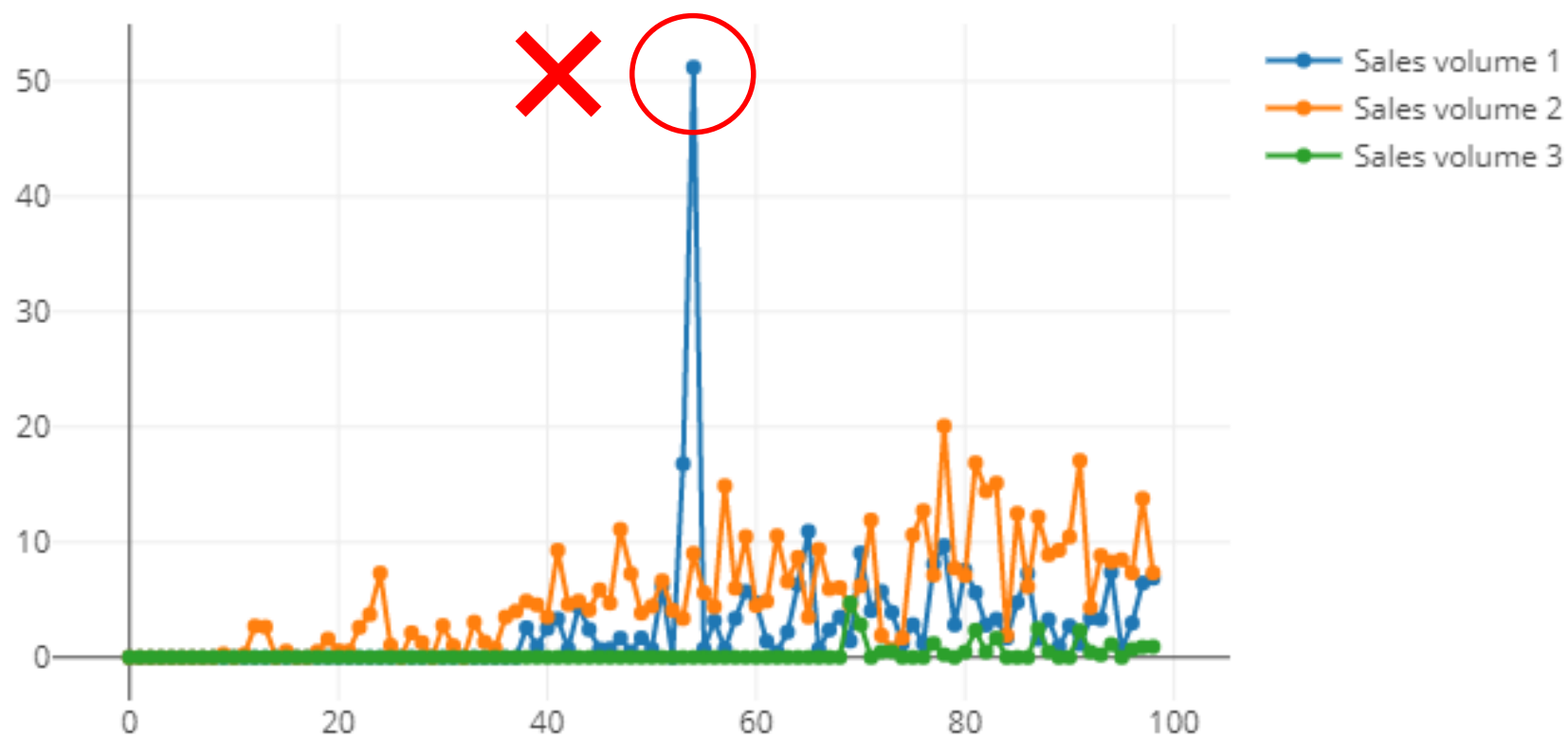
Raw time series



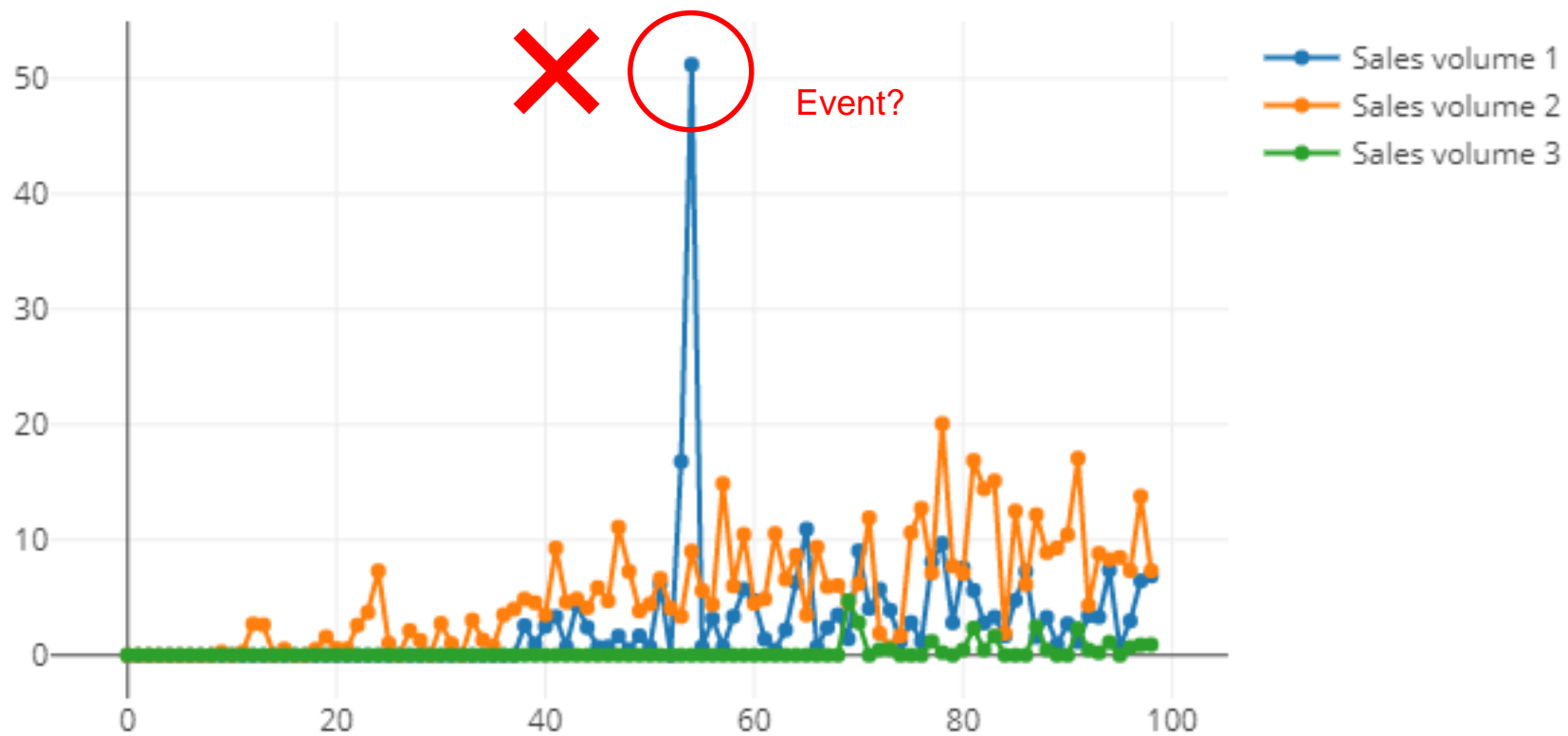
Raw time series



Raw time series



Raw time series



Modelling

- Target = a high median of difference week by week
 - The growth
- Tried simple and complex models

Correlation

Performance	1.000000
longitude	-0.172367
surroundings.department_store	0.157145
surroundings.beauty_salon	0.150690
surroundings.library	0.143002
surroundings.shoe_store	0.142393
surroundings.clothing_store	0.139895
surroundings.laundry	0.137660



surroundings.airport	-0.017754
surroundings.lodging	-0.016326
surroundings.bicycle_store	-0.015830
surroundings.amusement_park	-0.014478
near_POS	0.013353
surroundings.roofing_contractor	-0.013301
surroundings.synagogue	-0.013162
surroundings.cemetery	0.013055
rating	0.011430
surroundings.campground	-0.011108

Correlation

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longitude	-0.172367
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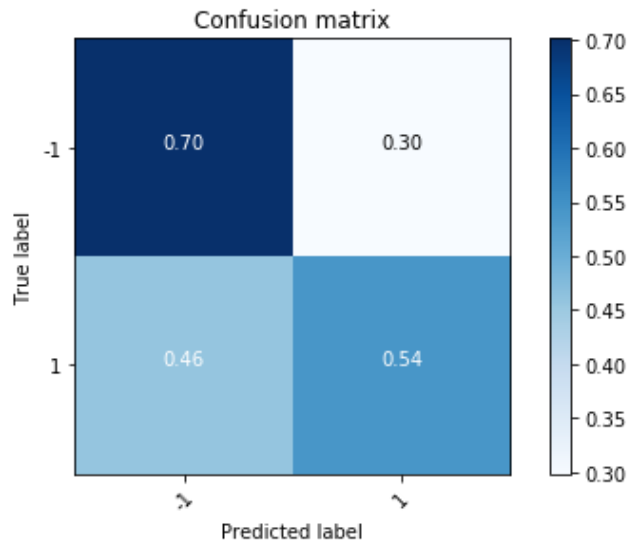
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surroundings.synagogue	-0.013162
surroundings.cemetery	0.013055
rating	0.011430
surroundings.campground	-0.011108

Random Forest feature importance



Random Forest feature importance

surroundings.home_goods_store	0.066089
surroundings.insurance_agency	0.065500
surroundings.book_store	0.060188
surroundings.atm	0.055269
longitude	0.054041
surroundings.furniture_store	0.053818
surroundings.bowling_alley	0.051792
surroundings.car_dealer	0.050549
surroundings.cafe	0.047160
surroundings.storage	0.047022
latitude	0.043125
surroundings.florist	0.040768
surroundings.zoo	0.039007
surroundings.travel_agency	0.035205
surroundings.bus_station	0.034511
surroundings.painter	0.028005
surroundings.lawyer	0.027204
surroundings.shoe_store	0.022335
surroundings.bicycle_store	0.021206
surroundings.parking	0.020102
surroundings.park	0.020102
surroundings.transit_station	0.020102
surroundings.hair_care	0.017868
surroundings.night_club	0.013401
surroundings.clothing_store	0.013401
surroundings.accounting	0.013401
surroundings.spa	0.013401
surroundings.post_office	0.009847
surroundings.store	0.009572
rating	0.004639

Random Forest feature importance

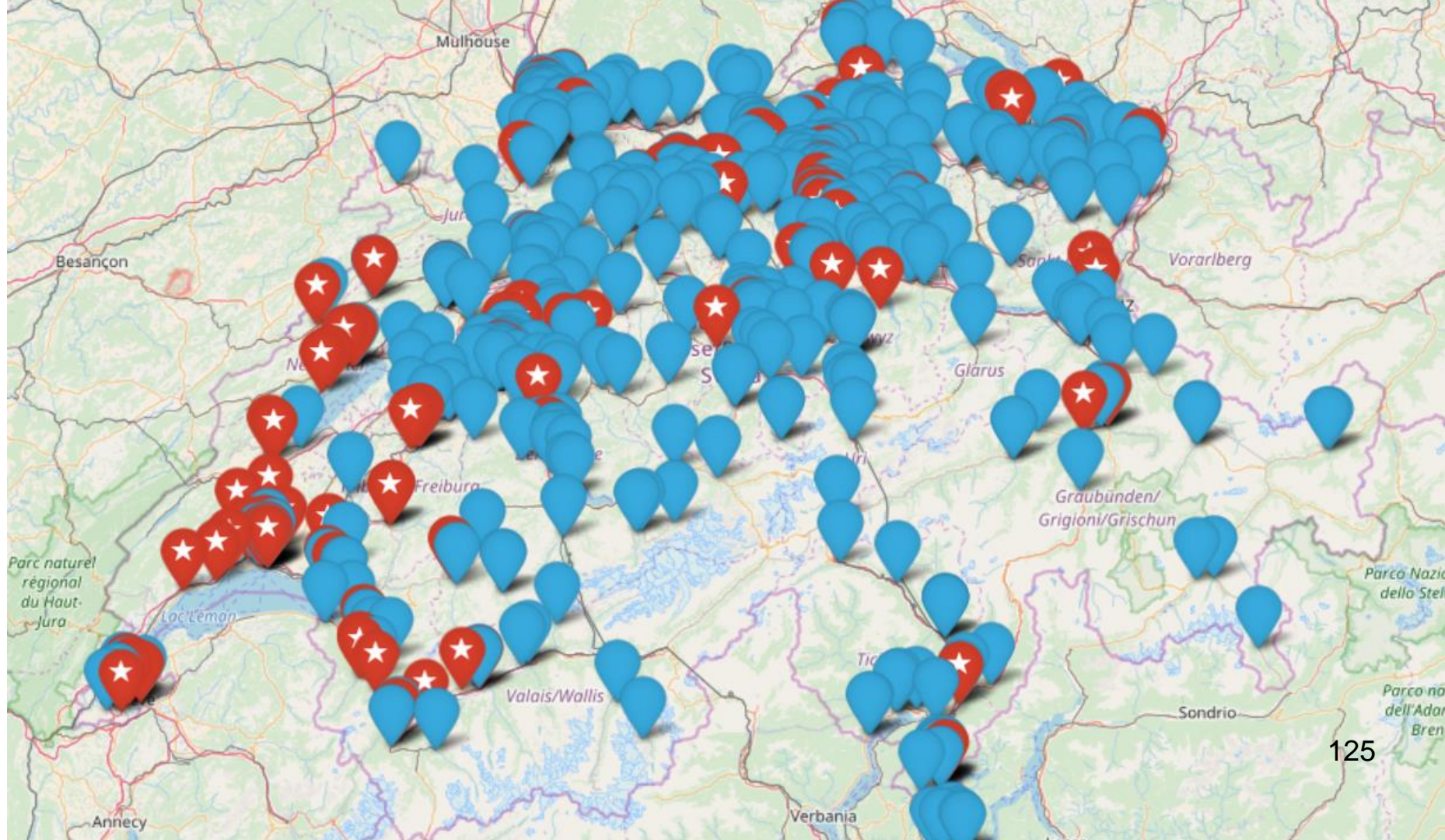
surroundings.home_goods_store	0.066089
surroundings.insurance_agency	0.065500
surroundings.book_store	0.060188
surroundings.atm	0.055269
longitude	0.054041
surroundings.furniture_store	0.053818
surroundings.bowling_alley	0.051792
surroundings.car_dealer	0.050549
surroundings.cafe	0.047160
surroundings.storage	0.047022
latitude	0.043125
surroundings.florist	0.040768
surroundings.zoo	0.039007
surroundings.travel_agency	0.035205
surroundings.bus_station	0.034511
surroundings.painter	0.028005
surroundings.lawyer	0.027204
surroundings.shoe_store	0.022335
surroundings.bicycle_store	0.021206
surroundings.parking	0.020102
surroundings.park	0.020102
surroundings.transit_station	0.020102
surroundings.hair_care	0.017868
surroundings.night_club	0.013401
surroundings.clothing_store	0.013401
surroundings.accounting	0.013401
surroundings.spa	0.013401
surroundings.post_office	0.009847
surroundings.store	0.009572
rating	0.004639

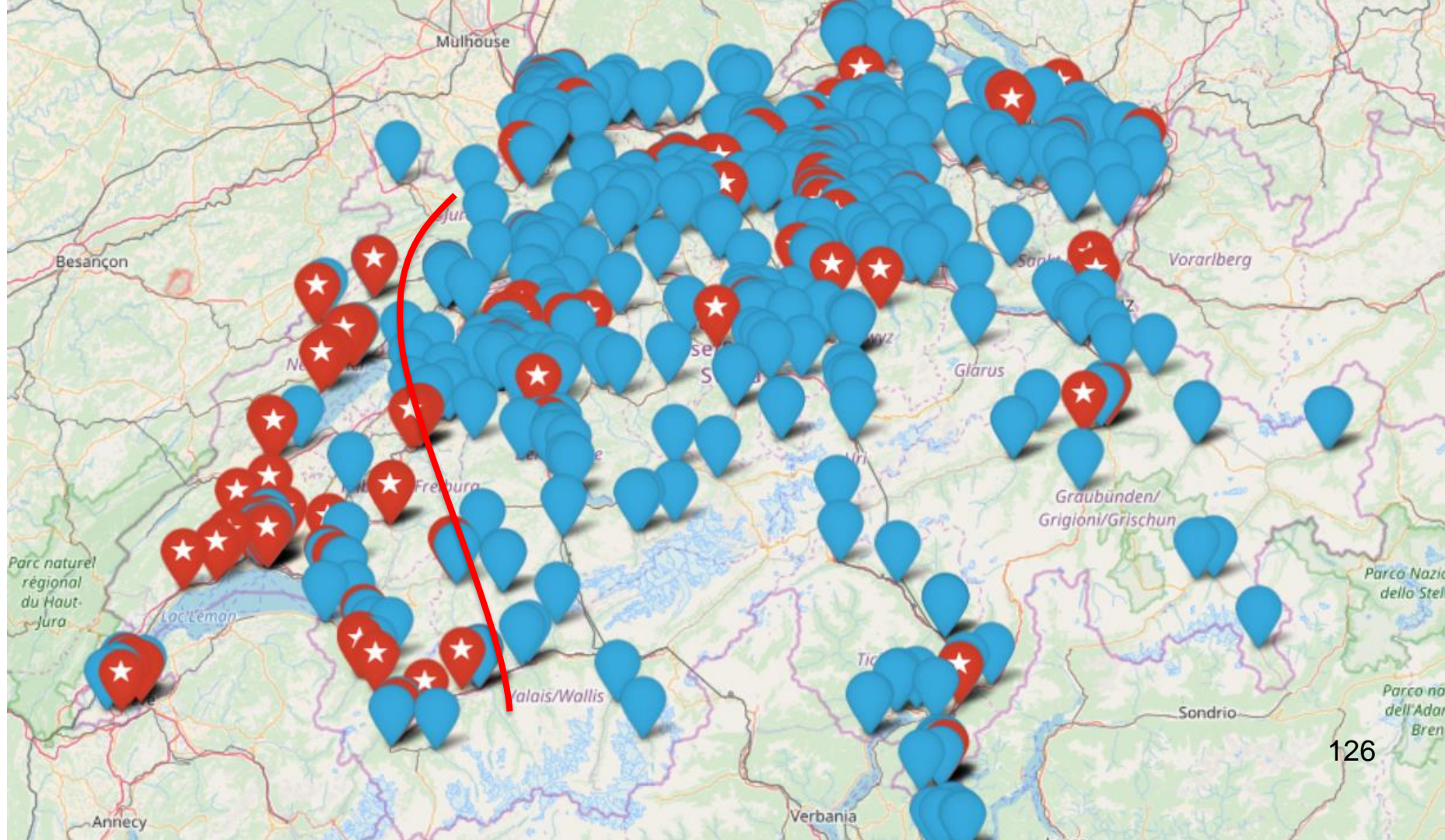
Random Forest feature importance

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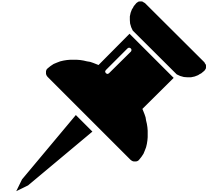
Future work

Feature extraction

Extract more information
from the web

Complex modelling

Develop models



Future work

Feature extraction

Extract more information
from the web

Complex modelling

Develop models

Risk

Conclusion could be that
surroundings
only slightly affect sales

Thank you

Any questions?