



**Take home
challenge: Data
Scientist intern**

The Problem

We want to **increase the bookings** on the platform in the city of Rio de Janeiro

1. What are the **metrics** to monitor the success of the team's efforts in improving guest host matching process over time ?
2. What **areas to invest in** to increase the number of successful bookings in Rio de Janeiro?

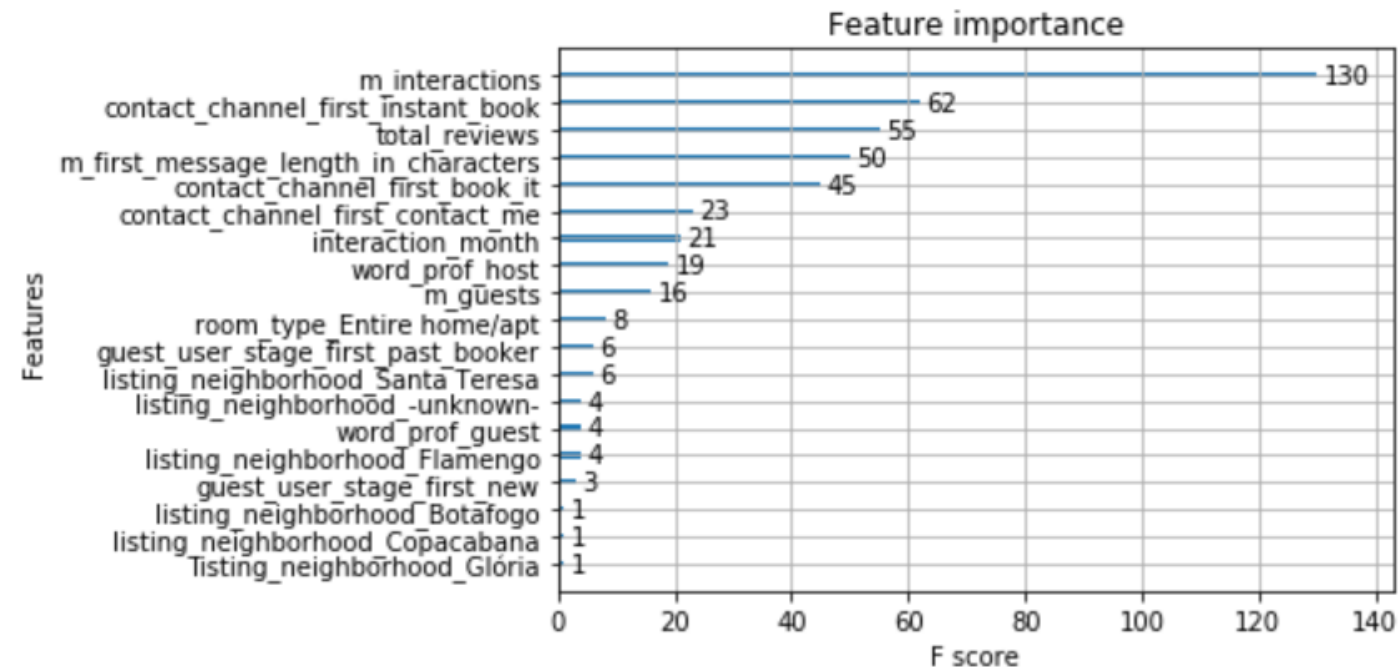
I- Metrics

- **Number of bookings:** Total number of bookings in each neighborhood
- **Conversion rate:** The ratio of the number of bookings over the number of inquiries

$$\text{Conversion rate} = \frac{\text{number of bookings}}{\text{number of inquiries}}$$

II - Variables selection

Parameters of a listing that have the strongest impact on it getting booked



- Parameters selected:

Type of booking: instant book it or contact me

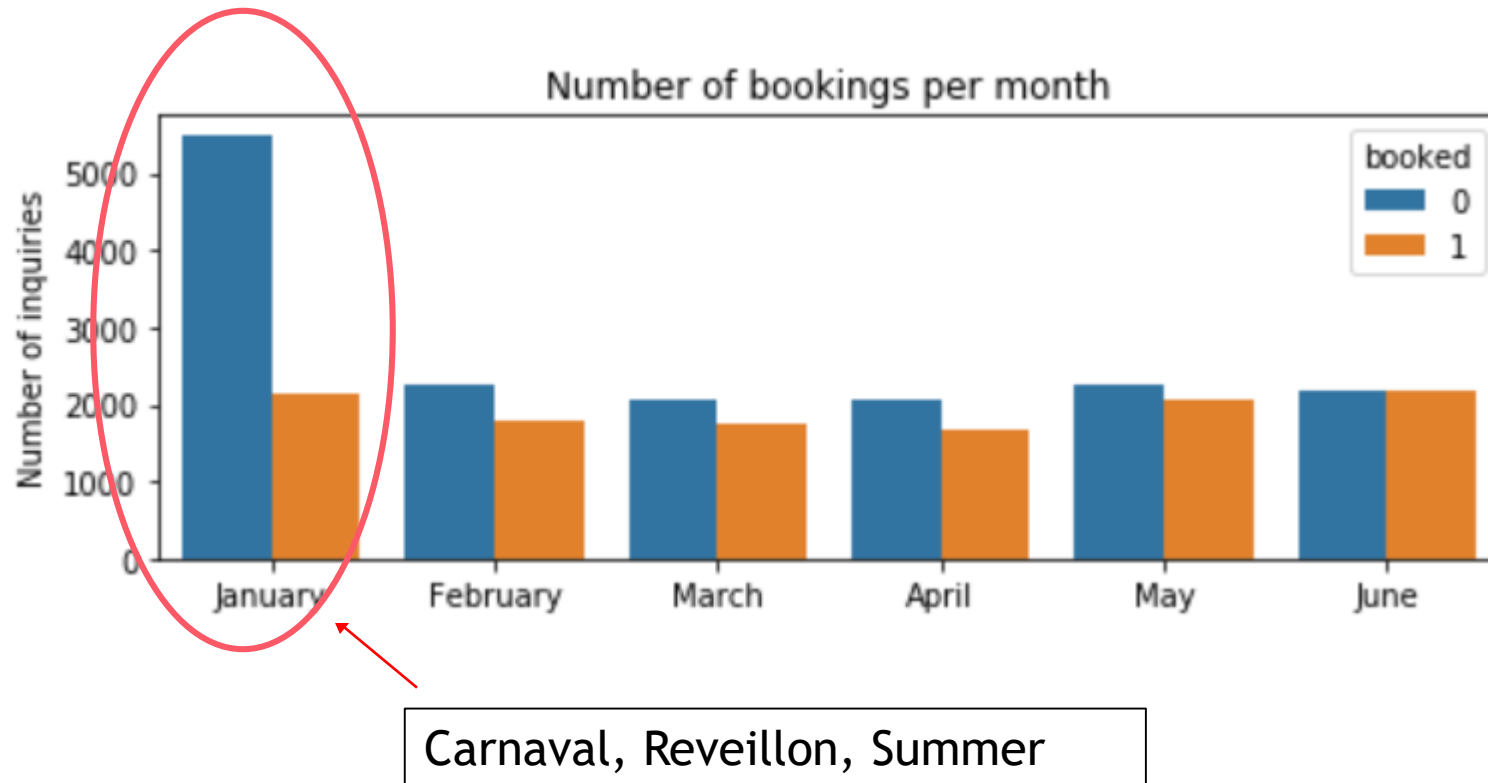
Total reviews: number of reviews on a listing

Month: period of enquiry

Number of interactions: number of messages exchanged

III - Recommendations

a- Seasonality: Increase the conversion rate in January



- **Opportunity:** We could double profits in January
- **Action:** Lower prices on January
- **Side note:** We could seek to answer the question why the bookings do not follow the increase of inquiries in January

III - Recommendations

b- Neighborhood segmentation

3 segments:

- **high:** high number of booking (>20%) and a good conversion rate (>60%)
- **medium:** the highest number of inquiries but the lowest number of bookings. These are areas where there is a lot of unmet demand.
- **low:** few inquiries (<10). Areas where we need to grow the business

Map of Rio de Janeiro



Legend:

Red: high

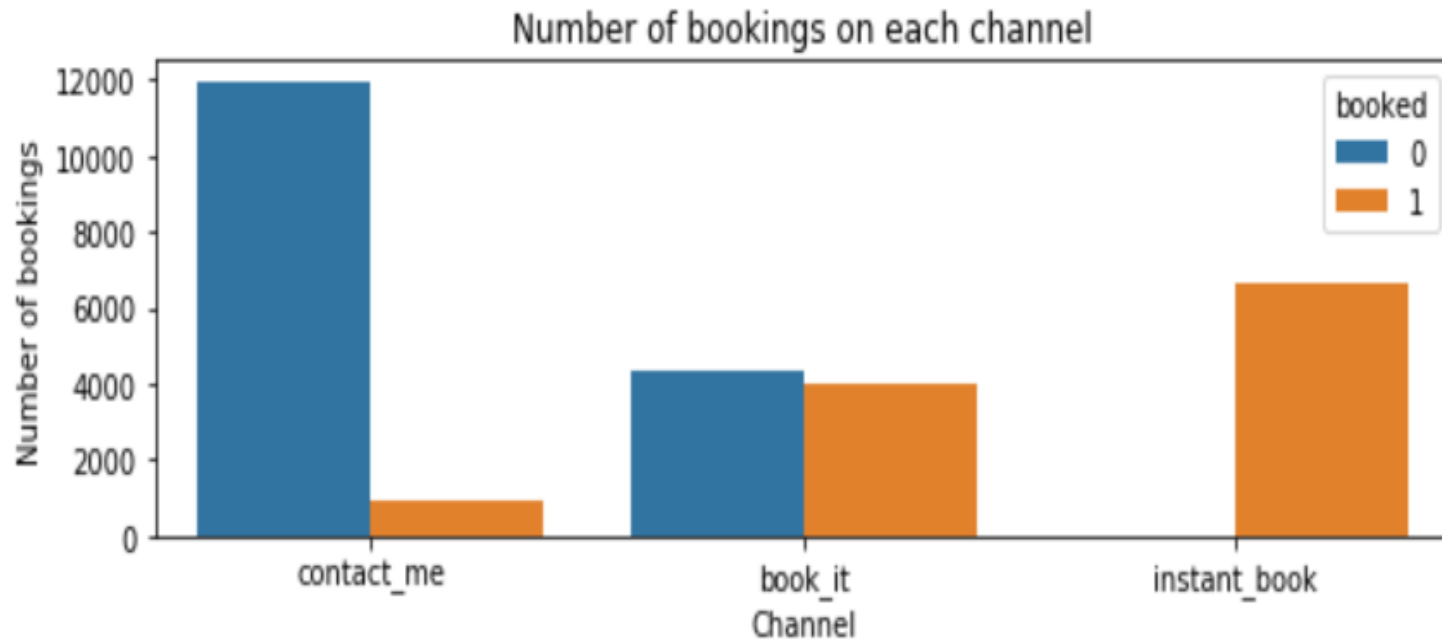
Black: medium

blue: low

- We should focus on advertising in the **medium area** (black)
- where we already have a **huge demand**
- We could **increase our conversion rate** by encouraging lower prices

III - Recommendations

c- Booking channel



Incentivize hosts to favour either instant book or book it by:

- Advertise the increase in likelihood for bookings with “book_it” and “instant_book” (up to 90%)
- Incentivize guests to review for successful “contact_me” bookings with coupon codes