

Predicting Airbnb Price In Tokyo

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The Problem

7M+

Airbnb Listing Worldwide

100K+

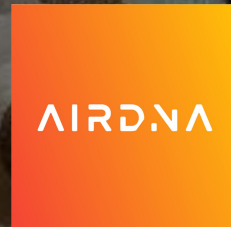
Cities with Listings

220+

Countries and Regions with
Airbnb Listings

COMPETITORS are constantly increasing

PRICE is an important concern for host





The Solution

Data

Tokyo Airbnb listing information from
InsideAirbnb.com

Goal

Predict Airbnb listing price based on features of
properties

Tools



XGBoost



pandas



learn



seaborn

matplotlib




About The Data



Characteristics of Listing

Property Type
Room Type
Location
Distance
Accommodates



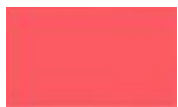
Amenities

Essentials
Air Conditioning
Entertainment features
Customer services
Tubs and Pools



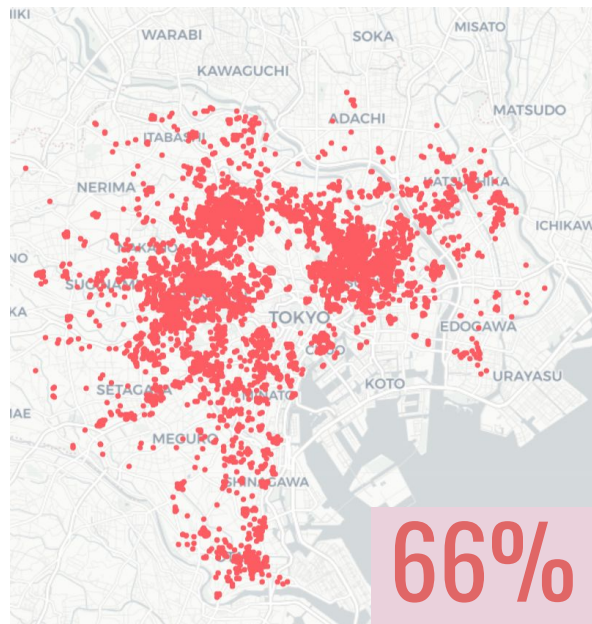
Host Controllables

Cleaning Fee
Acceptance and Response Rate
Minimum, Maximum Stay
Security Deposit
Superhost

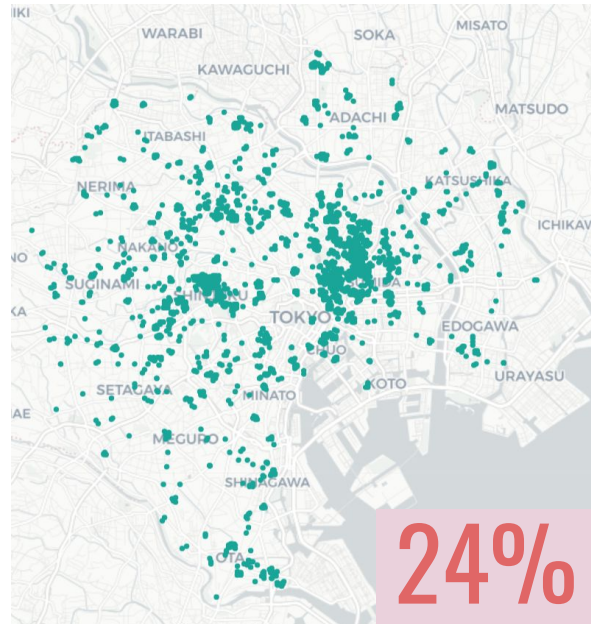


Room Type

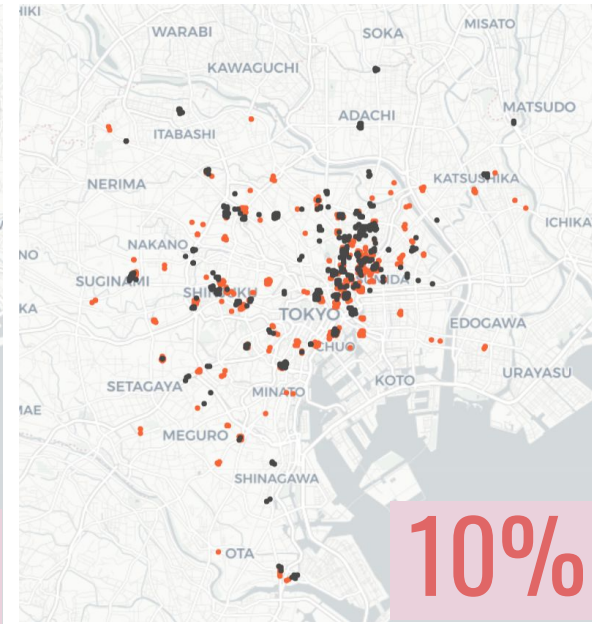
Entire Home/Apartment



Private Room



Shared Room & Hotel



Accommodates

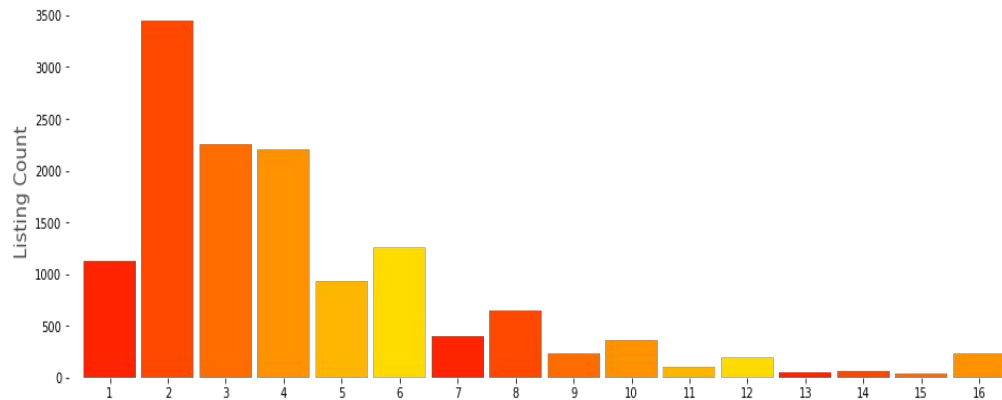
Most Airbnb accommodates 2 individuals

Accommodating more yields better price

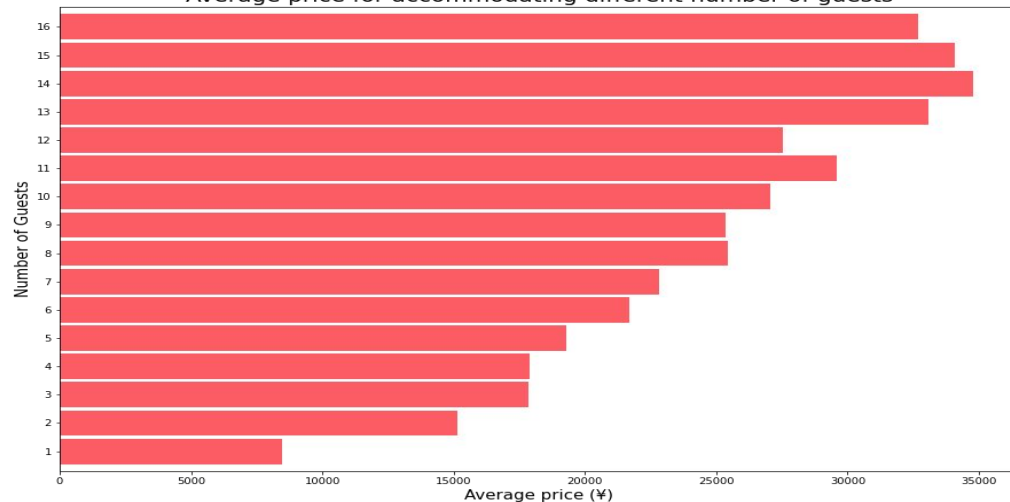


The More The Merrier

Accommodates (Number of People)



Average price for accommodating different number of guests



Amenities Do Matter

“

*An overwhelming
97 percent of US
travelers surveyed
say amenities
impact their travel
experience.*

”

Boost Prices with Extras:



Bedroom Essentials



Tubs and Pools



Heating Amenities



Parking Spaces



Location, Location,
Location

SHINJUKU

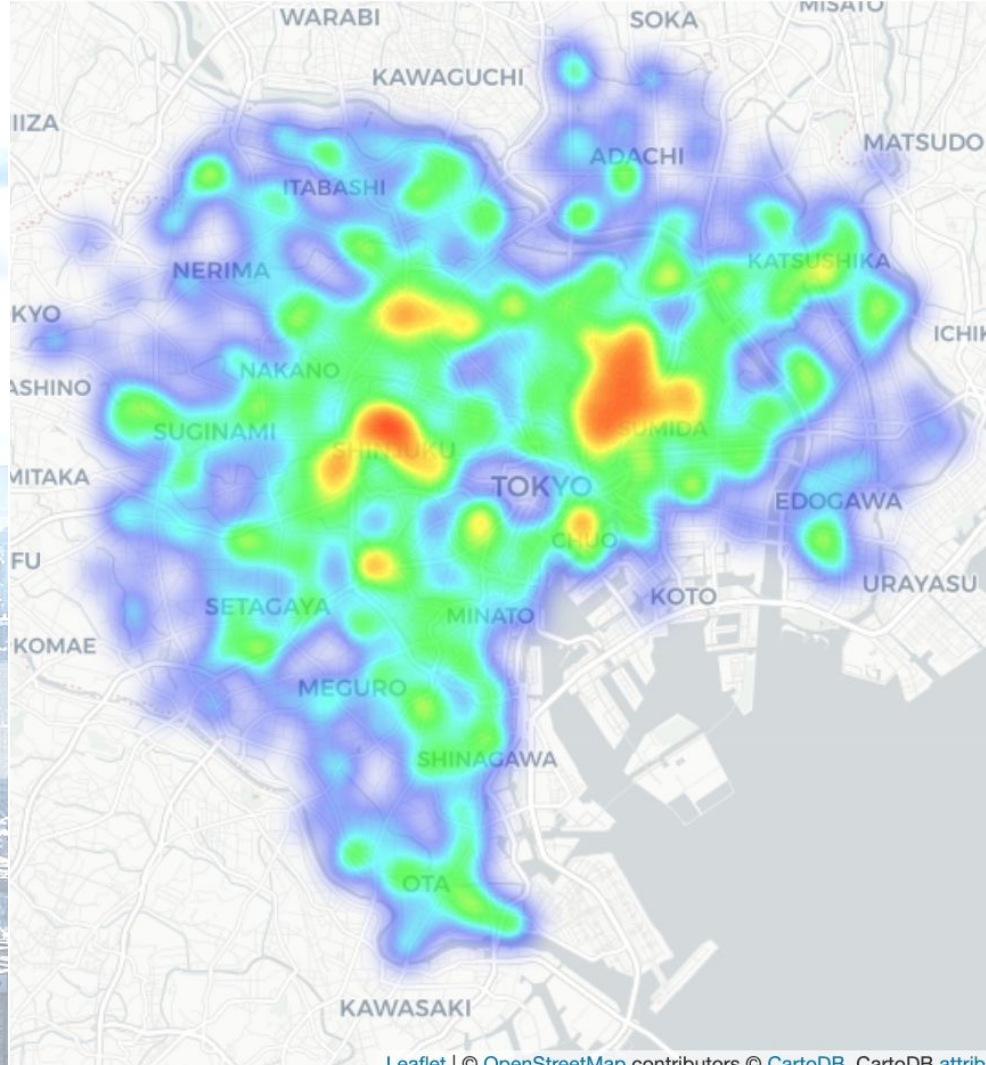
2395 Airbnb Listing

TAITO

1883 Airbnb Listing

TOSHIMA

1427 Airbnb Listing



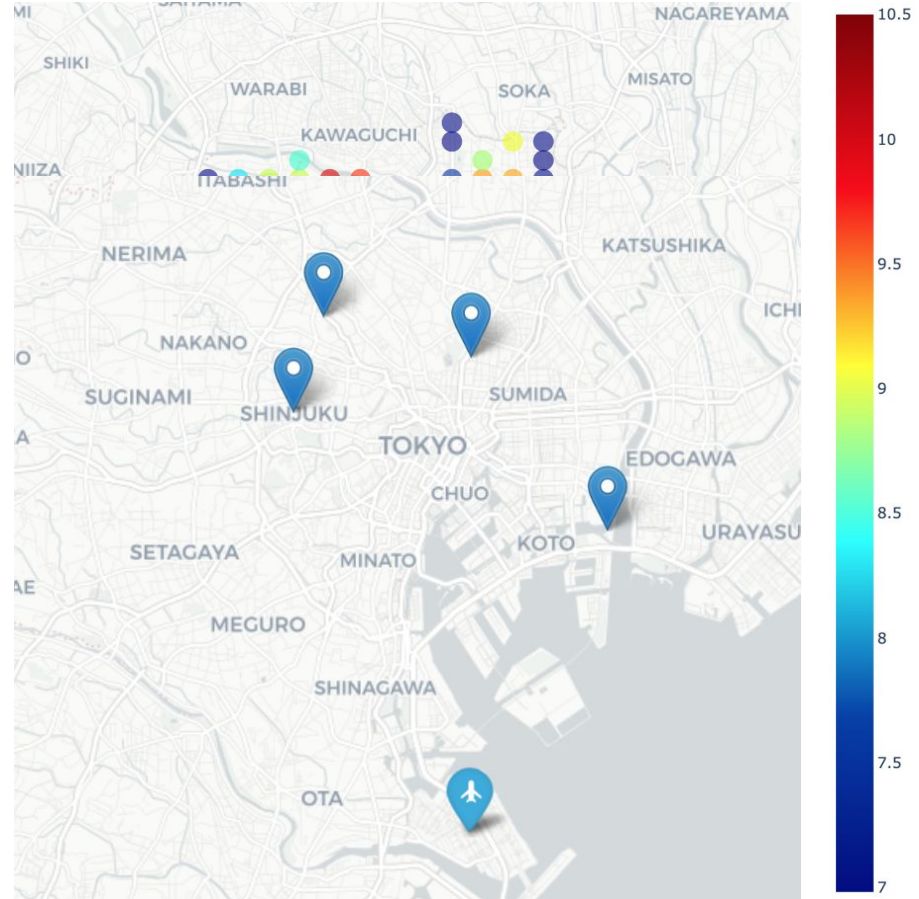
Average Price
Density and Distance

Inner Tokyo

\$\$\$\$\$

Outer Tokyo

\$\$\$



Accuracy of Model

R-Squared
79%

RMSE:
9759¥



A background image of a kitchen scene. A brown cat is perched on a windowsill in front of a large, multi-paned window. The windowsill is cluttered with various items, including a blue bottle, a small potted plant, and some kitchenware. Below the windowsill, a wooden countertop is filled with fresh produce like lemons, limes, and leafy greens, along with other kitchen items like a red pitcher and a bowl of fruit. The overall lighting is soft and natural, coming from the window.

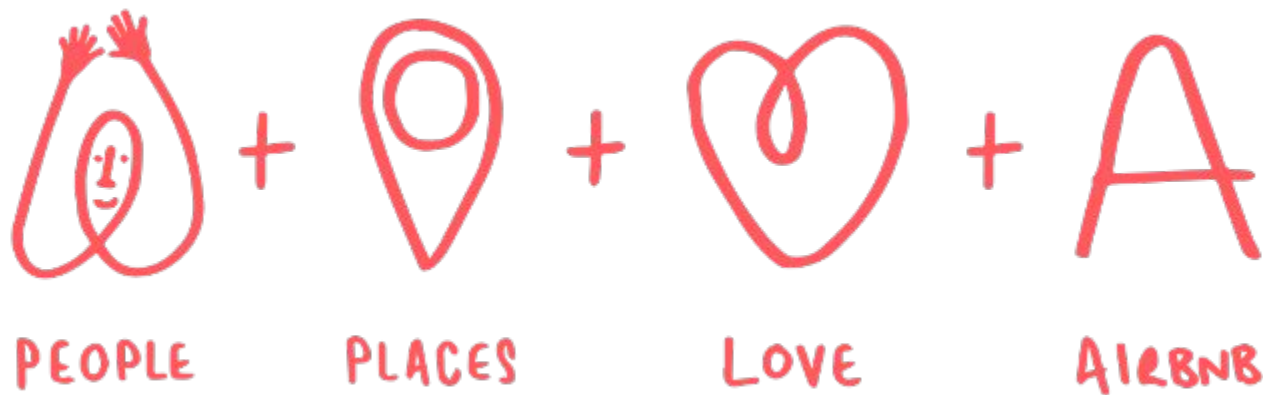
For Future Analysis

Photo Analysis Factor for decision-making of the guest

Natural Language Processing On description and review data

Sophisticated Geoanalysis On Popular Landmarks

Optimize Revenue $\text{Price} \times \text{Number of Bookings}$



Thank You!

Things to Keep in Mind

- 15 Mins presentation
- Your presentation should focus on summarizing your
 - **problem statement**,
 - your **approach**,
 - your **findings**, and
 - how it might be **used in the future**.
- Particularly when presenting to a non-technical audience, remember that what and why can be much more interesting than how:
 - What are you trying to predict?
 - Why are you doing it? Who cares?
 - What are some predictions your model has made? Where they any good?
 - What will you use it for in the future? Are there limitations or risks?
 - Do not use technical terms unless you can clearly and succinctly define them.
- Note, you will not need to go into *how* you picked your model or *how* you chose your hyperparameters (in fact, usually better to keep hyperparameters just to us data scientists!)
- Try to craft a story/narrative around your project. Don't just dump facts on your audience.
- Have *fun*! This is a celebration of the 12 weeks of hard work that you have done!