



# DEVC DEMO DAY

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TEAM: SHECODES



Ngan Ha - PM



Huy Vu – React Native



Cong Ngo – React Native



Vu Tung – Data Science

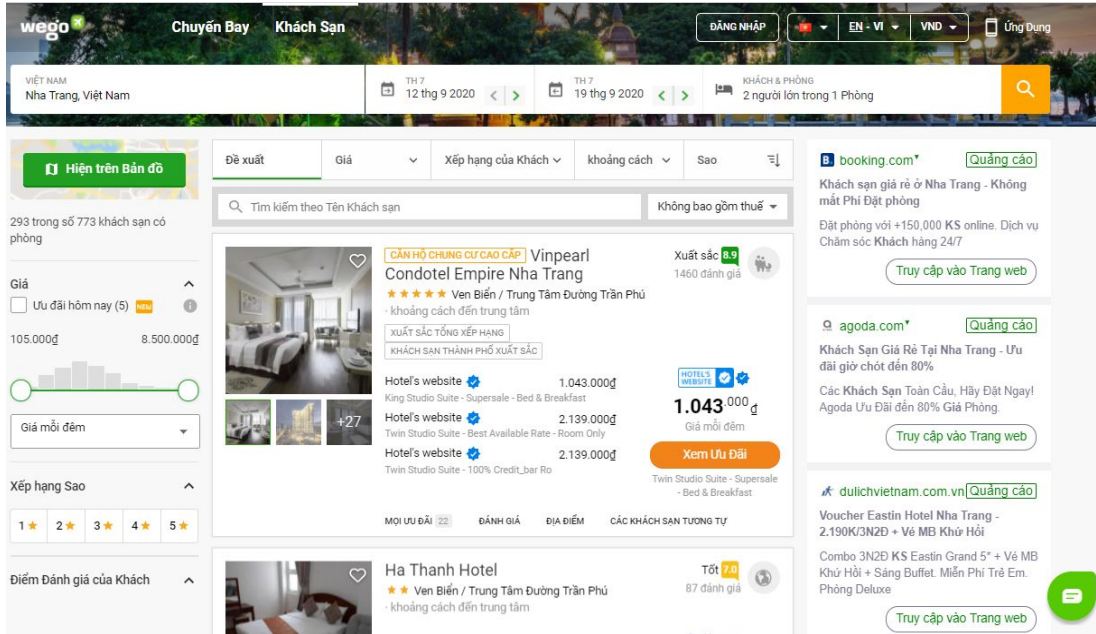


Nhi Tran – Data Science



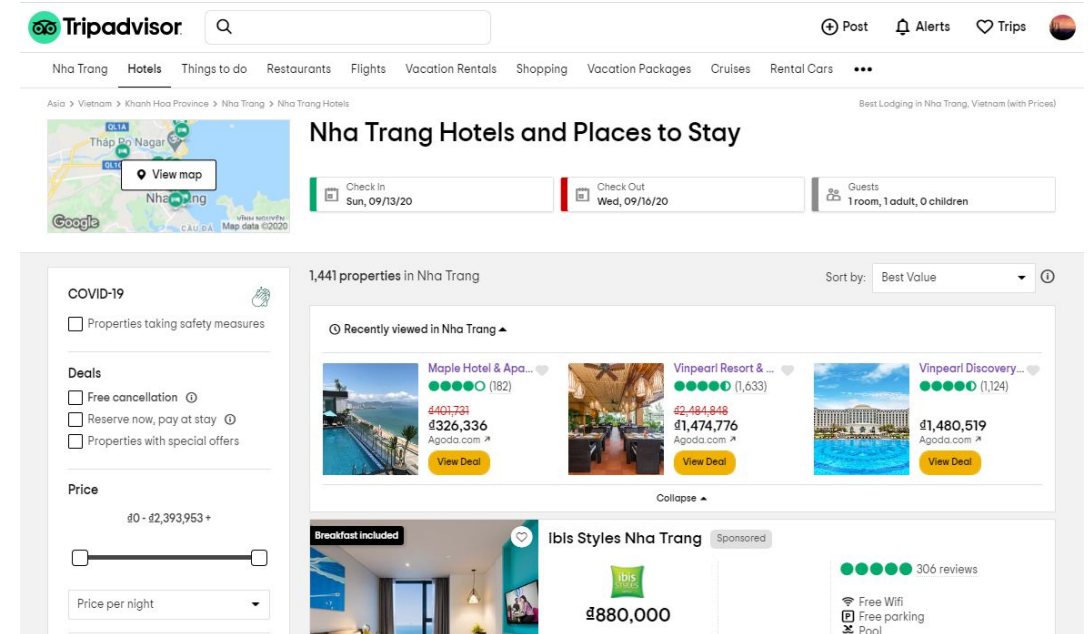
Van Pham – Data Science

## HOTEL METASEARCH APP



### INPUT

- ✓ Hotel info Tripi
- ✓ Hotel info từ các kênh OTA (Agoda, Booking, Traveloka, Expedia)
- ✓ Mapping hotel from Tripi - Agoda, Booking, Traveloka, Expedia
- ✓ API get price real time



### OUTPUT

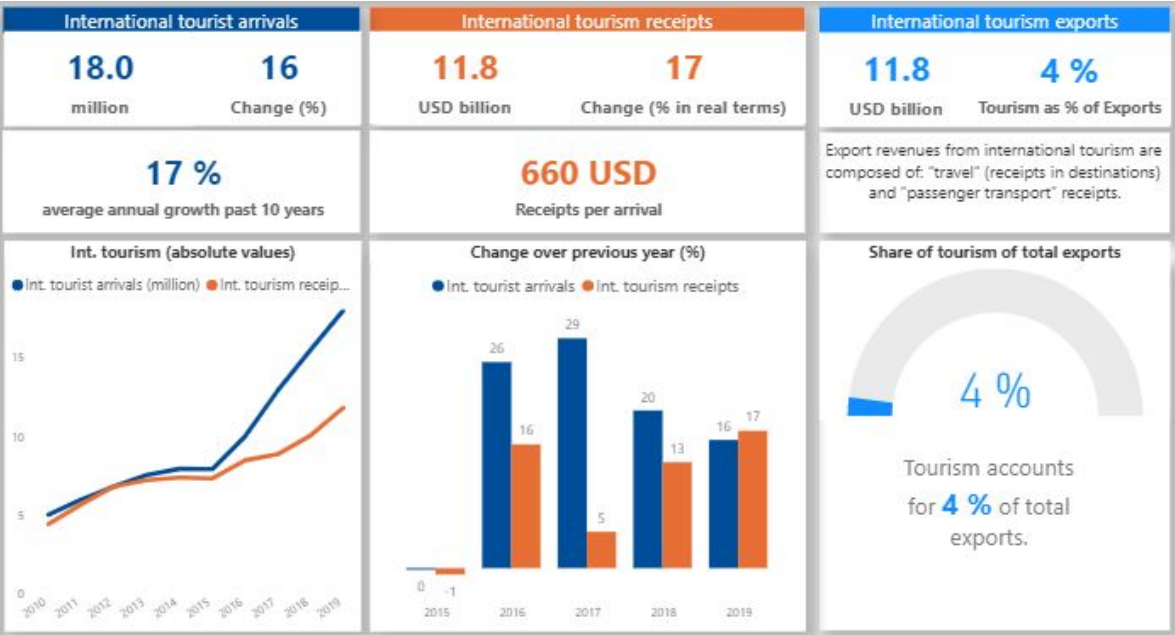
- ✓ Confirm mapping khách sạn Tripi - Agoda, Booking, Traveloka, Expedia
- ✓ Bộ tiêu chí lọc khách sạn và normalization các kênh
- ✓ Ranking khách sạn theo bộ tiêu chí lọc

## THE QUESTIONS

How to make users stay in our app while they can use website instead?



MARKET RESEARCH



Vietnam Tourism Market Overview  
(2019)



Int. Tourist Arrivals

Hotel Search



Hotel Bookings

## CUSTOMER PORTRAIT



**Hong Anh**

Funny, enthusiastic, travel-lover

**Age:** 22

**Location:** Ha Noi

**Income:** 200M VND/year

**Occupation:** Account Executive

**Education:** BS in Business Administration

Travel is the one thing that truly matter in my life.  
It's my goal of making money.

Travels 3-4 times/year

Usually takes 1-2 months to schedule for a trip

**Couldn't make use of loyalty programs** due to some reasons:

- Inadequate points
- Voucher expires

## BOOKING JOURNEY



### Flight booking:

- Search for flight ticket on Skyscanner, Traveloka
- Hunt discount flight ticket: Vietjet, follow travel bloggers

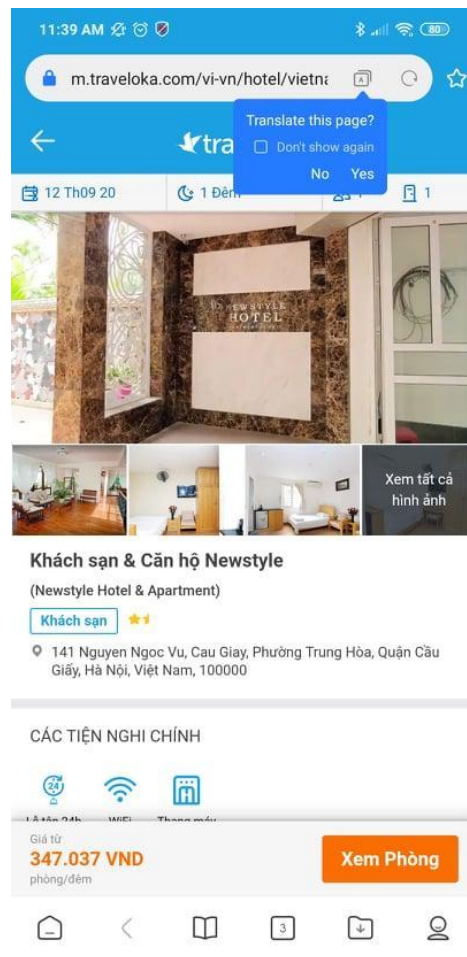
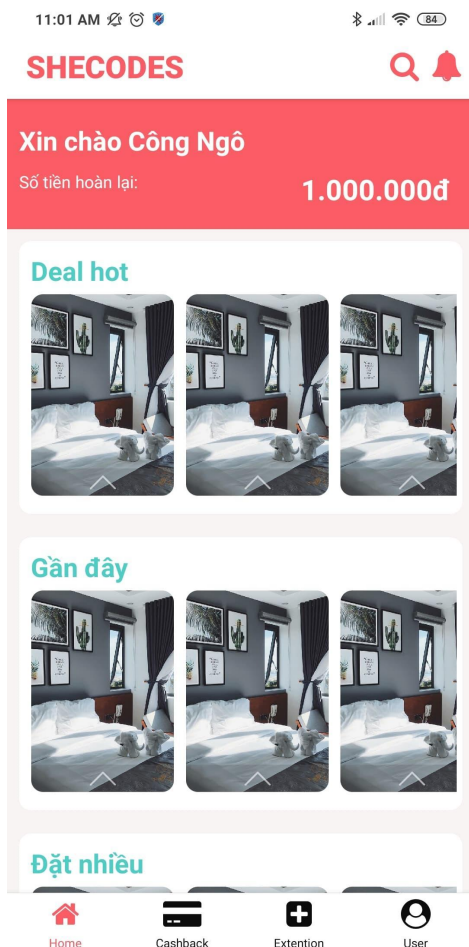
### Hotel booking:

- Search on Booking, Agoda, Airbnb
- Priority: Location > Price > Quality

### Activity planning:

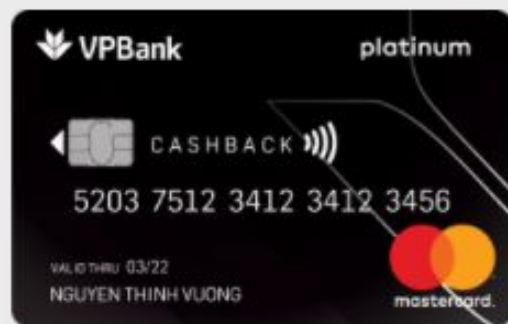
- Search on travel blog
- Adventurer

## THE ANSWER



A hotel metasearch app which allow user search for hotel, compare hotel price between OTAs, book hotel and **receive cash back** for each transactions.

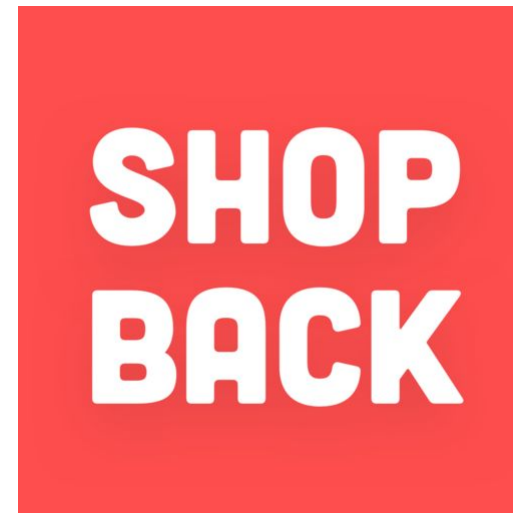
**Cash back** is a model which money are paid back to customers in cash after they make a purchase from a retailer.



- **0.5%** cho chi tiêu từ 0 đến 30 triệu
- **1%** cho chi tiêu trên 30 triệu đến 90 triệu
- **2%** cho chi tiêu trên 90 triệu đến 120 triệu
- **3%** cho chi tiêu trên 120 triệu

\* Số tiền hoàn lại tối đa 2.000.000 VND/kỳ sao kê.  
Chi tiêu tối thiểu 10 triệu để được hoàn tiền

## WHY CASH BACK?



**ShopBack:** a Singapore-based pioneering cashback and discovery platform startup

Besides Vietnam, it is also present in Singapore, Malaysia, the Philippines, Indonesia, Taiwan, Thailand, Australia, and South Korea.

**Since 2019:** acquired over **150 merchants** and around **800,000 users**



## WHY CASH BACK?

### CASH BACK

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- Simple rewards
- Flexibility
- No expiry!

vs.

### LOYALTY POINTS

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- Can be complicated
- Limited points transfer options

SHECODES



Số tiền hoàn lại

1.000.000đ

## Dành cho bạn



## Xem nhiều



## Gần đây



Trang chủ



Card nhà



Tôi



## DATA SCIENCE - Ranking System (Why?)

### WITH USERS



**Hong Anh**

Funny, enthusiastic, travel-lover

(1) Customers have little time to choose the most suitable hotels.

### WITH HOTELS



Hotel Bookings

(2) The COVID-19 makes hotel bookings' numbers drop.

(3) The high-quality hotels stay unknown.

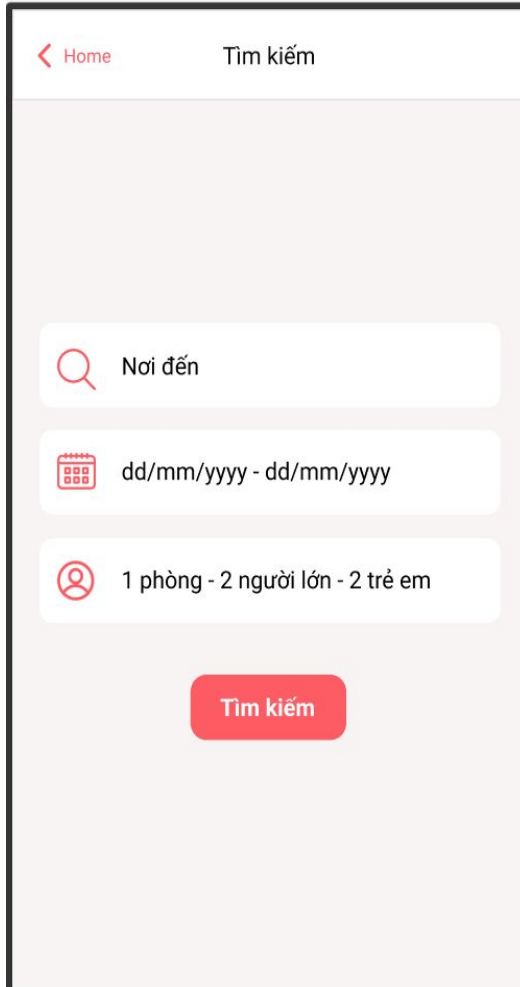


**Our Ranking System is built to solve these 3 problems!**



## DATA SCIENCE - Ranking System (How?)

### WITH USERS



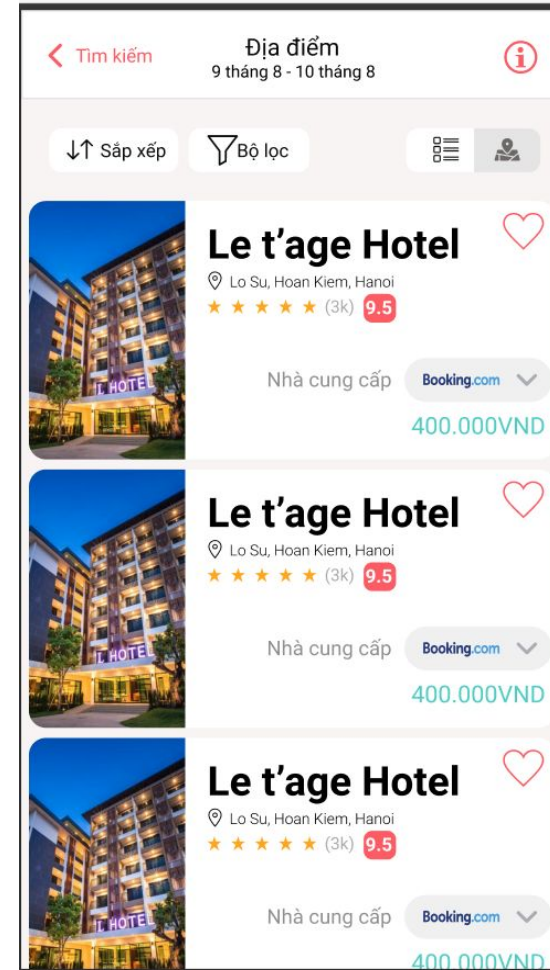
The user interface shows a search bar with the text "Tìm kiếm" (Search). Below the search bar, there are three input fields: "Nơi đến" (Destination), "dd/mm/yyyy - dd/mm/yyyy" (Dates), and "1 phòng - 2 người lớn - 2 trẻ em" (1 room - 2 adults - 2 children). A red button labeled "Tìm kiếm" is at the bottom.

**Step 1:** Filter list hotels according to **user's needs**:

- (1) Location
- (2) Date of arriving & leaving
- (3) Number of rooms & people

=> Help users choose the most optimized hotels in the shortest time.

### WITH HOTELS



**Step 2:** Rank hotels according to **overall\_score**.

**Overall score** is calculated by **8 metrics**: Cleanliness score, Meal score, Location score, Room score, Value score, Facility score, Sleep Quality score, Service score

=> Help high-quality hotels be known!

## DATA SCIENCE - Recommendation System (Why?)

### SHOPEE

SẢN PHẨM TƯƠNG TỰ

**Yêu thích**

**19% GIẢM**

KEM CHỐNG NẮNG DPH EGF UV SHIELD SPF50+ PA+++ 60ml

**Tài Trợ**

[Mã COSSALE18 hoàn 8% xu đơn...]

**₫690.000** Đã bán ...

**Mall** **NESSA**

**40% GIẢM**

SPF50+

**Tài Trợ**

Bộ đôi xịt và sữa chống nắng...

**₫429.000** Đã bán ...

**Số 1**

**SPF 35 PA+++**

fb.com/chieu.accessories

TÍNH CHẤT CHỐNG NẮNG CHO BÉ 60ml

Sữa chống nắng dịu nhẹ cho da nhạy...

**₫355.000**

### TIKI

#### SẢN PHẨM THƯỜNG ĐƯỢC XEM CÙNG

Theo Dòng Lịch Sử Khoa Học - Hiểu và Giải Mã Những Bí Mật Thế Giới

**231.700 đ** -23%  
299.000 đ

Những Nhà Khám Phá - Lịch Sử Tri Kiến Vạn Vật Và Con Người

**193.500 đ** -3%  
199.000 đ

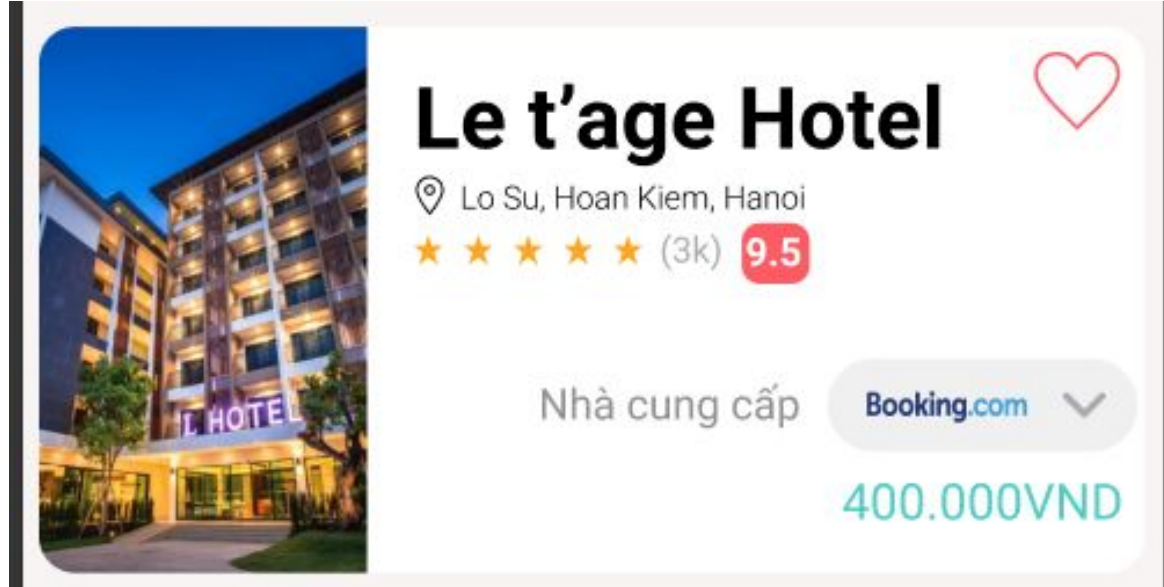
Lược Sử Thời Gian (Tái Bản 2020)

**88.500 đ** -7%  
95.000 đ



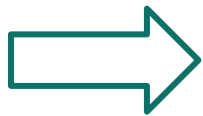
“SIMILAR HOTELS” recommendation: When user clicks in hotel A, our system will suggest similar hotels (in the same cluster).

## DATA SCIENCE - Recommendation System (How?)



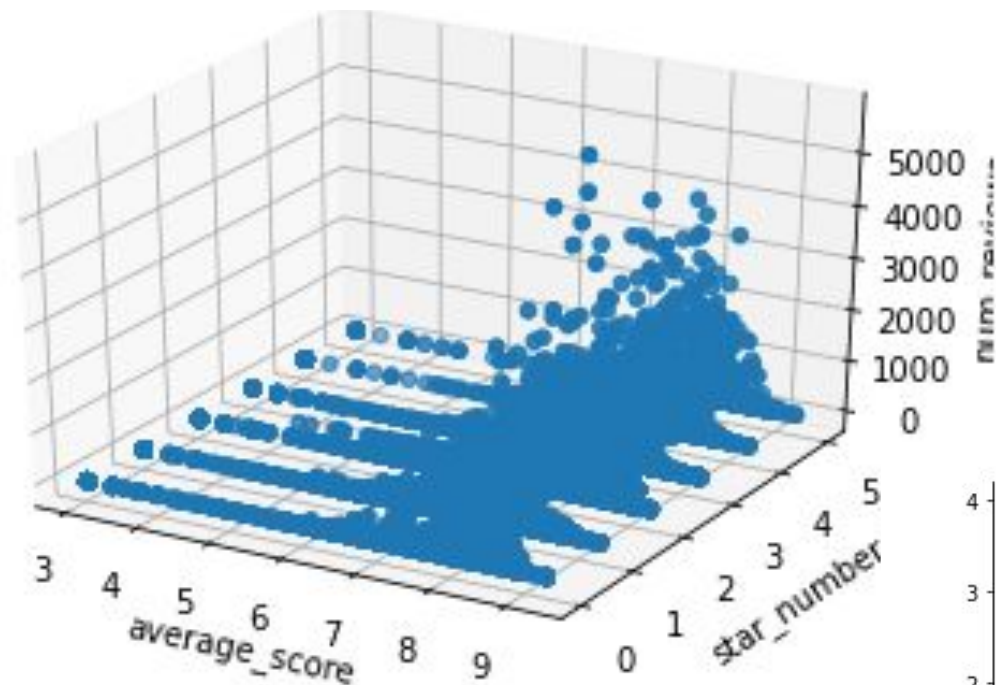
There are 4 main points users will look at to decide whether they will click or not!

- (1) Overall Score
- (2) Number of stars
- (3) Number of reviews
- (4) Location



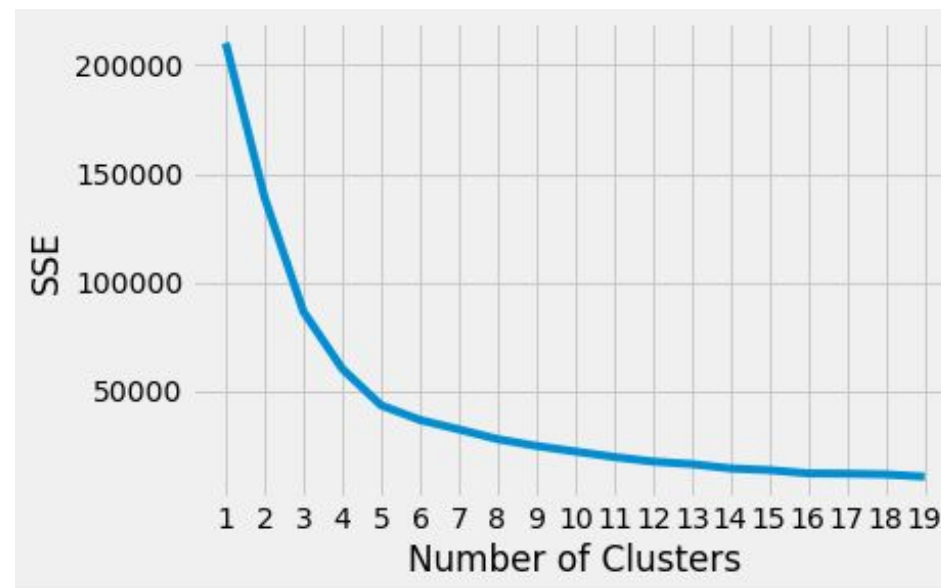
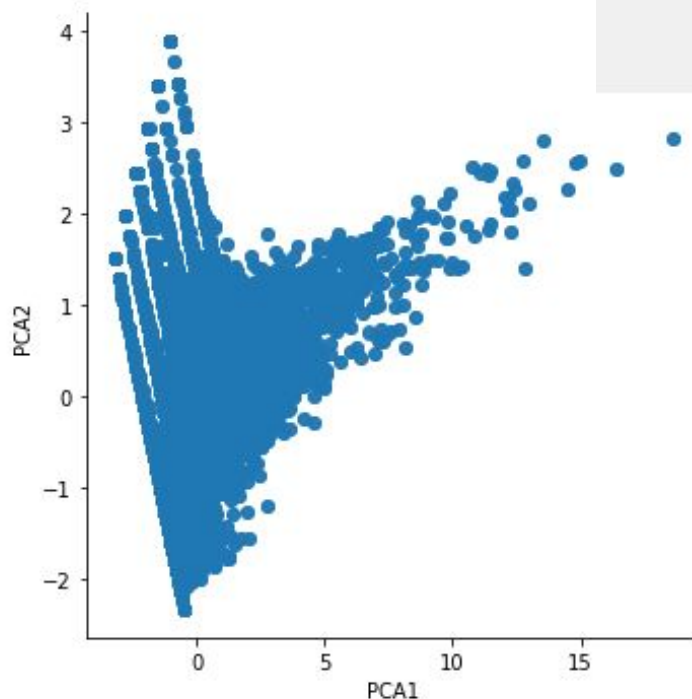
Our recommendation will depend on these 4 deciding points to classify hotels into “K” clusters!

## DATA SCIENCE



(1) Visualize 3 variables in 3D to get an overview of point location

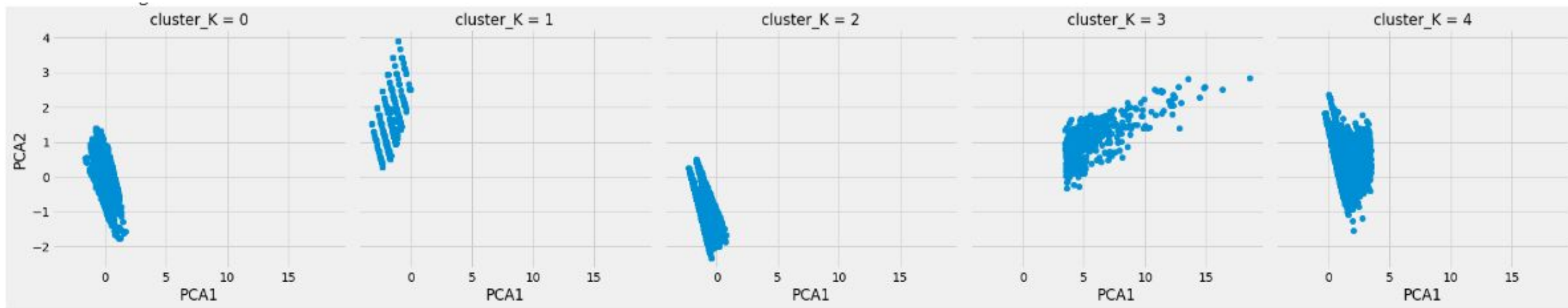
(2) Standardize a dataset and Reduce dimension using PCA



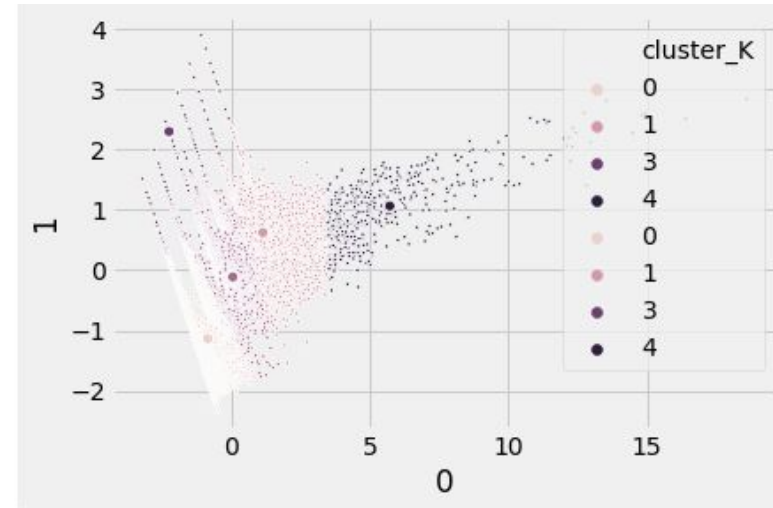
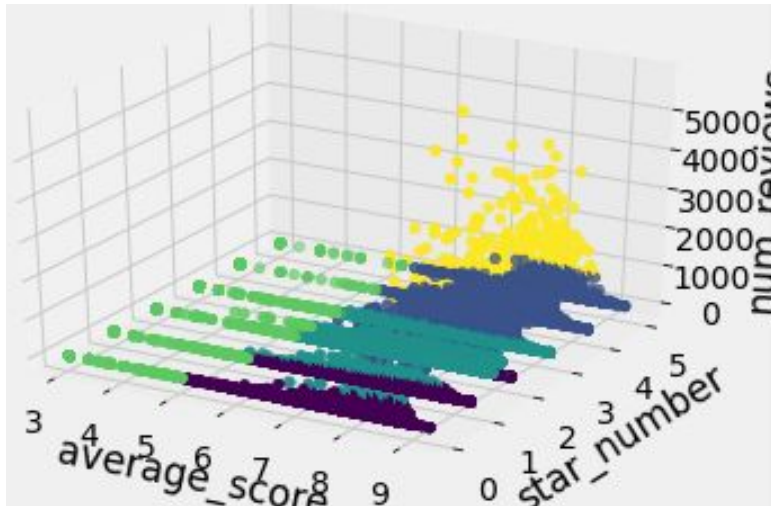
(3) Use SSE to figure out the number of clusters → 5



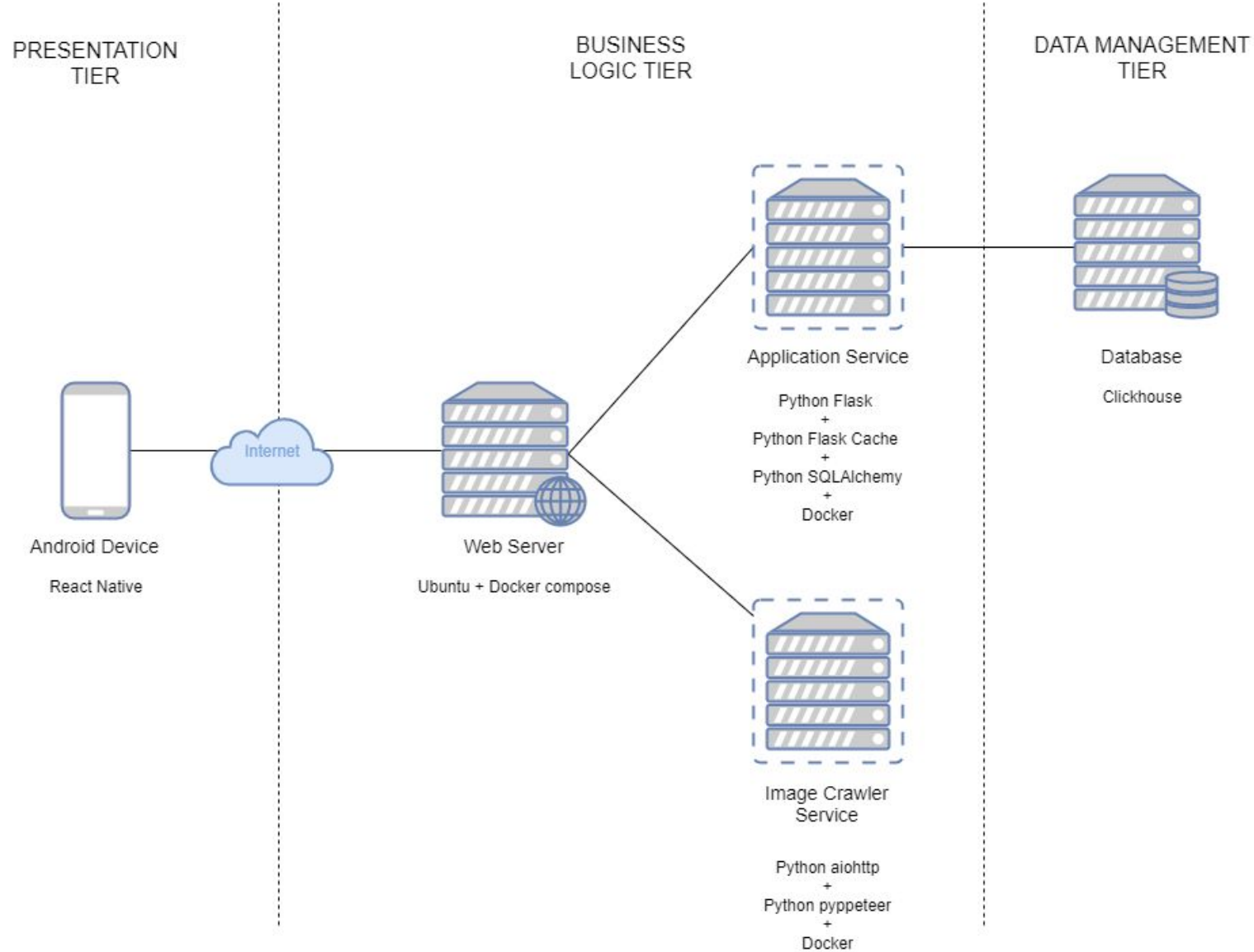
## DATA SCIENCE - Recommendation System (Our journey to find the most suitable k)



K = 5



## BACK END



## FUTURE PLAN

### BUSINESS SIDE

- Cash back: business strategy, marketing strategy,
- Expand the business into flight ticket, transportation services, restaurant, entertainment places entrance ticket,...
- Build travel-lover community

### TECHNOLOGY SIDE

- Recommendation system: Using NLP to classify hotels according to their description and reviews.
- Optimize UI & UX by interviewing more potential customers.

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2. TapChiTaiChinh. (2020). *Ngành du lịch Việt Nam và cú sốc lớn đầu năm 2020 vì đại dịch Covid-19*. [online] Available at: <http://tapchitaichinh.vn/nguyen-cuu-trao-doi/nganh-du-lich-viet-nam-va-cu-soc-lon-dau-nam-2020-vi-dai-dich-covid19-319717.html> [Accessed 18 Sep. 2020].
3. TapChiTaiChinh. (2020). *Du lịch Việt Nam hậu Covid-19: Tương lai tươi sáng hay mảng màu ảm đạm?* [online] Available at: <http://tapchitaichinh.vn/tai-chinh-kinh-doanh/du-lich-viet-nam-hau-covid19-tuong-lai-troi-sang-hay-mang-mau-am-dam-321959.html> [Accessed 18 Sep. 2020].
4. Savills.com.vn. (2017). *Savills Việt Nam | Báo cáo Thị trường Khách sạn Hà Nội Q1 2020*. [online] Available at: <https://vn.savills.com.vn/insight-and-opinion/savills-news/181762/bao-cao-th%E1%BB%8B-tr%C6%B0%E1%BB%9Dng-khach-s%E1%BA%A1n-ha-n%E1%BB%99i-q1-2020> [Accessed 17 Sep. 2020].
5. <https://vietnamnews.vn/economy/716839/how-to-revive-viet-nams-tourism-industry.html>
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