HOTEL REVIEW
TOPIC MODELING

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INTRODUCTION

USERS

Filter on the relevant reviews they are most interested in reading

HOTEL MANAGEMENT

Aggregate hotel reviews with similar topics for easy review

BOOKING AGENCY

Build hotel recommender based on user-provided preference

DATA

VIA HOTELS.COM API

50
HOTELS

1
LOCATION
TIMES SQUARE

8391
SENTENCES

50
LATEST REVIEWS

2497
REVIEWS

TRAINING WORKFLOW

Stemmer

Snowball Stemmer

Vectorizer

- CountVectorizer
- TfidfVectorizer

Topic Modeling

- NMF
- LSA

Sentiment Analysis

VADER

Score Aggregation

Average score over sentences by topic for each hotel

TOPICS - KEYWORDS

	NMF	LSA
CountVectorizer	0: Room, bed, bathroom, view 1: Location, Times Square, convenience 2: Hotel, stay, Times Square, recommend 3: Staff, friendly, front desk, welcome	0: Room, location, staff 1: Location, staff, Times Square 2: Hotel, stay, Times Square
TfidfVectorizer	0: Location, Times Square, staff 1: Staff, friendly, welcome 2: Room, bed, bathroom 3: Stay, hotel, recommend, night	0: Location, staff, room 1: Staff, room, welcome 2: Room, stay, hotel

FINAL TOPICS - NMF + CountVectorizer

TOPIC 0: ROOM

Room, bed, comfort, bathroom, view, size

TOPIC 2: VIBE

Hotel, stay, night, NYC, Times Square, recommend, book

TOPIC 1: LOCATION

Location, Times Square, walk, close, convenient, central, Broadway

TOPIC 3: STAFF

Staff, friendly, help, desk, accommodate, welcome, profession

TOPIC 0: ROOM

"The room was freezing, there was not anything to heat the room so it's s**ked being cold walking around and coming back to a cold room."

- Square Hotel in Times Square

"The room is spacious, new and clean, The bed was really nice I slept like a baby. There is a mini fridge in the room too."

- Executive Hotel Le Soleil New York

TOPIC 1: LOCATION

"Our stay was awesome. It truly is all about location, location, location."

- Room Mate Grace Boutique Hotel

"I will continue to stay at the Homewood Suites whenever I'm in a location where one is located; just not this location."

- Homewood Suites by Hilton New York Midtown Manhattan Times Square

TOPIC 2: HOTEL VIBE

“Overall, it was a beautiful hotel in a perfect location so I would definitely stay again & I would recommend this hotel for those who are on a budget visiting the big apple.”

- Row NYC

“The hotel is an older hotel with rooms smaller than today's hotels and motels, but because of its age, it has character.”

- Radio City Apartments

TOPIC 3: STAFF

"Guest staff at check in were friendly however the restaurant staff that I went one time to visit to get a morning coffee were rude."

- The Time New York

"Restaurant staff, housekeeping and hotel staff were super friendly and welcoming."

- InterContinental - New York Times Square

SENTIMENT ANALYSIS

POSITIVE

0.96

"Staff was great, very clean, felt safe with all of the security, beautifully decorated, perfect location."

0.39

"Room was a lot smaller than expected but that was okay considering we didn't spend much time in there!"

NEGATIVE

-0.96

"Was a horrible hotel to stay in just not worth the time the room design is horrible..."

-0.39

"So it was inconvenient to have to lug all your luggage from the parking lot."

RECOMMENDER

1st choice: Room

2nd choice: Vibe

3rd choice: Staff

4th choice: Location

Weighted Score Calculation

Recommendation

CIVILIAN Hotel

3.89

Library Hotel by Library Hotel Collection

3.83

Arlo Midtown

3.82

citizenM New York Times Square

3.81

The Iroquois New York

3.79

"I'm so glad that I chose this hotel! We loved the unique decor and the room was very comfortable. We went to the bar where they had an hour of complimentary drinks! Again, the ambiance was fantastic. It's a hotel that you can hang out at and enjoy yourselves. We want to go again."

- CIVILIAN Hotel

CONCLUSION

SENTIMENT ANALYSIS

Aggregate sentiment from multiple reviews

TOPIC MODELING

Improve the efficiency of reviewing feedback

RECOMMENDER

Provide personalized recommendations to the end-users

BON VOYAGE!

THANKS!

DOES ANYONE HAVE ANY QUESTIONS?

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API: Hotels.com API

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