



# The Destination Dictionary

Find your perfect destination  
in just a few words.



# Background

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COVID-19 has caused a disruption to the travel industry

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With the development of new vaccines, the new challenge is to get people excited about travel once again!

# The Destination Dictionary

Created by: Muhammad Qayyum | muhammadqayyum853@gmail.com

Not sure where to travel? Use this machine learning algorithm to find your perfect destination in just a few words.

What activities do you want to do on vacation? ex. I want to go to the beach

ex. I want to go to the beach

## You should travel to:

Bali, Indonesia



# Data Collection

**Travelers' Choice®  
2020**

**Best of the Best**

## Popular Destinations – World

From can't-miss iconic cities to new surprises, these are the spots that travelers raved about most on Tripadvisor this year.

UNITED STATES   WORLD   REGIONS

EXPAND LIST

**1 London, United Kingdom**

25 of 25

From Shoreditch's swaggering style to Camden's punky vibe and chic Portobello Road, London is many worlds in one. The city's energy means that no two days are the same. Explore royal or historic sites, tick off landmarks from your bucket list, eat and drink in... [more](#)

**Don't miss**

- Sir John Soane's Museum
- Gods Own Junkyard
- St. Dunstan in the East

[All 8273 things to do](#)

2 of 25

**Small-Group Tour: Historical Pub Walking Tour of London**

1,000 reviews

Get a local's perspective of London on a guided walking tour that introduces you to several of the city's most historic alehouses. Try local brews (own expense), see city sights, and hear stories of the legendary... [read more](#)

Taking safety measures

3-4 hours

By: [Liquid History Tours](#)

Popular: Booked by 3,536 travelers!

**Stonehenge, Windsor Castle, and Bath from London**

7,306 reviews

Unless you hire a car, visiting Stonehenge, Bath, and Windsor Castle in one day is next to impossible. Designed specifically for travelers with limited time in London, this tour allows you to check off a range of... [read more](#)

Taking safety measures

6+ hours

By: [Evan Evans Tours](#)

Popular: Booked by 67,882 travelers!

**London Ghost and Infamous Murders Walking Tour**

35 reviews

Experience the dark side of London with this eerie walking tour. Your entertaining local guide will take you to some of the spookiest parts of the London West End, from haunted theaters to the location of some of... [read more](#)

Taking safety measures

2 hours

By: [Insider London - Day Tours](#)

Popular: Booked by 304 travelers!

- Count vectorization
  - TF-IDF vectorization
  - Count vectorization using Bi-Grams



# Model Summary

FINAL TESTING F1 SCORE ————— 82%

FINAL TESTING ACCURACY SCORE ————— 81%

NUMBER OF CLASSES ————— 12

ALGORITHM ————— Multinomial Naive Bayes Model

# Model Confusion Matrix



Testing Accuracy Score 0.81 |  
F1 Score 0.82

Training Accuracy Score 0.86  
| F1 Score 0.86

# Recommendations

- Integrate the Destination Dictionary technology into pages where Top Destination lists are published to drive engagement with future travelers and drive traffic to affiliate links
- Use the Destination Dictionary technology paired with a chatbot on travel websites to act as a virtual travel agent
- Offer paid sponsorship of the 'default' city-- ex. Tourism Board of Bali can pay be the first recommended city when you open the page



# Future Work

*How I can continue to make the Destination Dictionary better!*

Continue tweaking the cleaning/preprocessing steps to improve model score

Train the model on more classes/cities

Improve Dash App

Train a Deep NLP model on the dataset

# Thank You!

I hope this project inspire your future travels!

**Muhammad Qayyum**

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**GITHUB**

<https://github.com/wajeeh853/The-Destination-Dictionary>

Dash App

<https://the-destination-dictionary.herokuapp.com>

