



أكاديمية سدايا
SDAIA Academy

Data Science Bootcamp

Project Proposal 2

AI Solution for Booking.com

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16 Sep. 21

Introduction

AI Tech is a leading company provide creatives AI solutions, we provide our customers with the latest advanced technologies and AI solutions for retail, manufacturing, entertainment, financial sector, transport and logistics. **Booking.com** is the world's leading digital travel companies. In line with the company's mission **Save time, save money!**, we proposing a solution using Machine Learning (ML) algorithm to improve the company's revenue. Saudi Arabia is the Middle East's second most popular tourist destination. This gulf treasure, a pilgrimage destination, offers a plethora of water sports as well as historic excursions to historic buildings. Therefore, we are proposing a prediction ML model and focuses on Ramadan and Al-Hajj seasons. The rest of the report is organized as the following: Section two present study motivation. Section three presents project mythology. Section four present data analysis tools, and report is concluded with conclusion in section five.

Project Motivation

Our goal is to use highest seasons in Saudi Arabia such as Hahajj and Ramdan and apply our trained model to predict booking hotels with lowest prices for hotels and closest location next to the Haram during Hajj and Umrah times and help people find and book hotels.

Project Methodology

We will solve this by using linear regression, we will first apply web scraping using Python and the Beautiful Soup, a free open-source library written in Python for parsing HTML and we will use lxml, which is an extensive library for parsing XML and HTML documents very quickly; it can even handle messed up tags. Finally, we will use Selenium alongside Beautiful Soup to crawl JavaScript driven pages. We will apply web scraping to extract our data from booking.com websites, then we will save the data file into a CSV file. Then we will apply the EDA techniques such as cleaning the data, removing null values and removing duplicate values. Next, we will visualize our data to find some insights and then we will train out model for prediction to predict the hotels prices.

Data Analysis Tools

we will use the following tools:

- BeautifulSoup
- Selenium
- Python (Pandas, numpy, pickle)
- Matplotlib
- seaborn
- scikitlearn

Conclusion

In this project, we will propose an AI solution for booking.com to predict the hotels with lowest prices and closest location to Al Haram especially during Ramadan season.

Booking.com