Using Foursquare and eBay to analyze computer hardware sellers in my area

Applied Data Science Capstone Project

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1 Introduction

1.1 Motivation

As a customer, I am always overwhelmed by all the buying options I am confronted with on a daily basis. Especially when looking for computer hardware, there are seemingly endless stores and possibilities just around the corner. While these stores are professional businesses, I wonder whether private offerings are also that strongly represented within my local area. To find out, I will make use of business data provided by Foursquare and compare it to currently active eBay listings near me. By also visualizing the data, I hope to underline my findings even more.

1.2 Who will profit from the insights

Both, buyers and sellers, can profit from the results portrayed in this short report. Buyers can use the data to further understand the available options to choose from when buying computer hardware. Sellers can increase their competitive advantages by getting to know their surroundings, such as other stores or active listings nearby. Also, anyone interested in the vast field of data science is able to get an impression of what to expect from the IBM Data Science Professional Certificate.

2 Data

I will use two different datasets to gain more insights into the questions I posed above. One will be Foursquare, which was introduced during the course. The other data will be provided by eBay. I will download the eBay data and load the file from my local directory, so I do not need to expose my credentials within the coding. The Forsquare data however will be fetched within the code cells.

2.1 Foursquare

Foursquare will provide general information about professional sellers and businesses offering computer hardware in my area. I will use the location (longitude, latitude, city name) to cluster the data. Additionally, the entries are visualized by being shown on a map. Besides the given columns, I will also one hot encode the type of business (professional or private), depending on the entry itself.

2.2 eBay

By making use of the eBay API, I can access and filter all eBay listings near me that are currently active. Similar to the Foursquare data, I am mainly interested in the location of the seller, the sellers name and whether the seller is a private person or a professional business.

2.3 Additional information

Of course, I will use the same search radius for both API calls, so I have a completely comparable dataset to work with. Unfortunately, the Foursquare call is limited to 200 results.

3 Methodology

Methodology section which represents the main component of the report where you discuss and describe any exploratory data analysis that you did, any inferential statistical testing that you performed, if any, and what machine learnings were used and why.

4 Results

Results section where you discuss the results.

5   Discussion

Discussion section where you discuss any observations you noted and any recommendations you can make based on the results.

6 Conclusion

Conclusion section where you conclude the report.