

Capstone Project

**Preparing for a Move
by Comparing the Old and New
Neighborhood**

By

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Overview

- Introduction
- Data
- Methodology
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Introduction

- Final assignment for “IBM Data Science Certification”
- Prepare young people for a move to a new city
 - provide more confidence about new home location
 - direct comparison of old and new home location
 - venues in the vicinity through a Radar chart
 - map out the average rental price per suburb in the new city
 - compare the neighborhoods in the new city
- Intent to make report reusable with very little effort
- This report is for a move from Berlin to Munich/Germany

Data

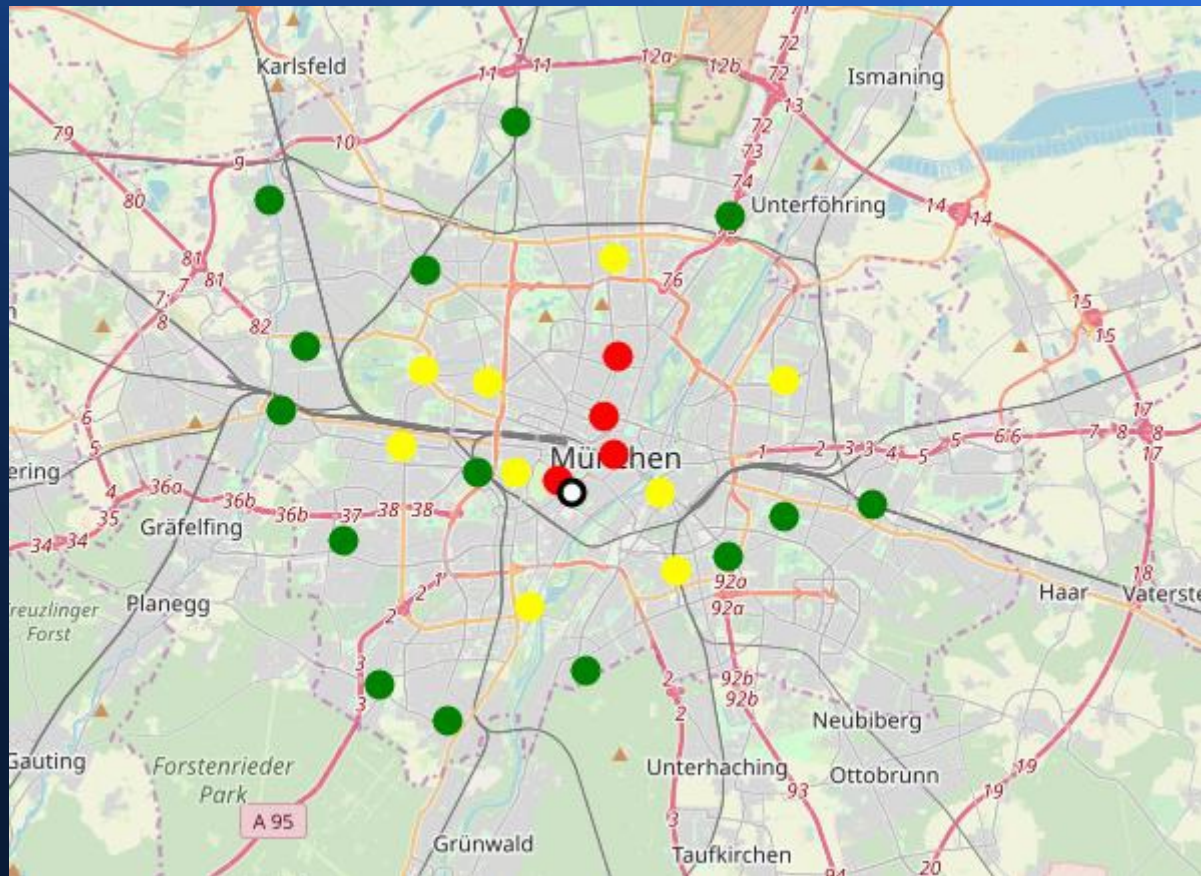
- Rental prices and districts obtained through webscrapin
- <https://de.statista.com/statistik/daten/studie/260438/umfrage/mietpreise-in-muenchen-nach-bezirken/>
- Geographical coordinates obtained through GEOPY
- Details for venues were obtained through Foursquare API

Methodology

- Webscraping & Cleaning of file
 - Trailing zero needed fixing and conversion to €
- Obtained coordinates for all districts using GEOPY
 - One district name needed modification for Geopy to find it
- Used Binning to create 3 categories for rental price
- Created map of Munich with Folium reflecting districts & categories
- Used horizontal bar chart to show rental by district
- Used horizontal bar chart show number of venue categories per district
- Used “One-Hot Encoding” to get number of venues for each category per district
- Radar Chart and Word Cloud was used to analyze 3 districts

Results

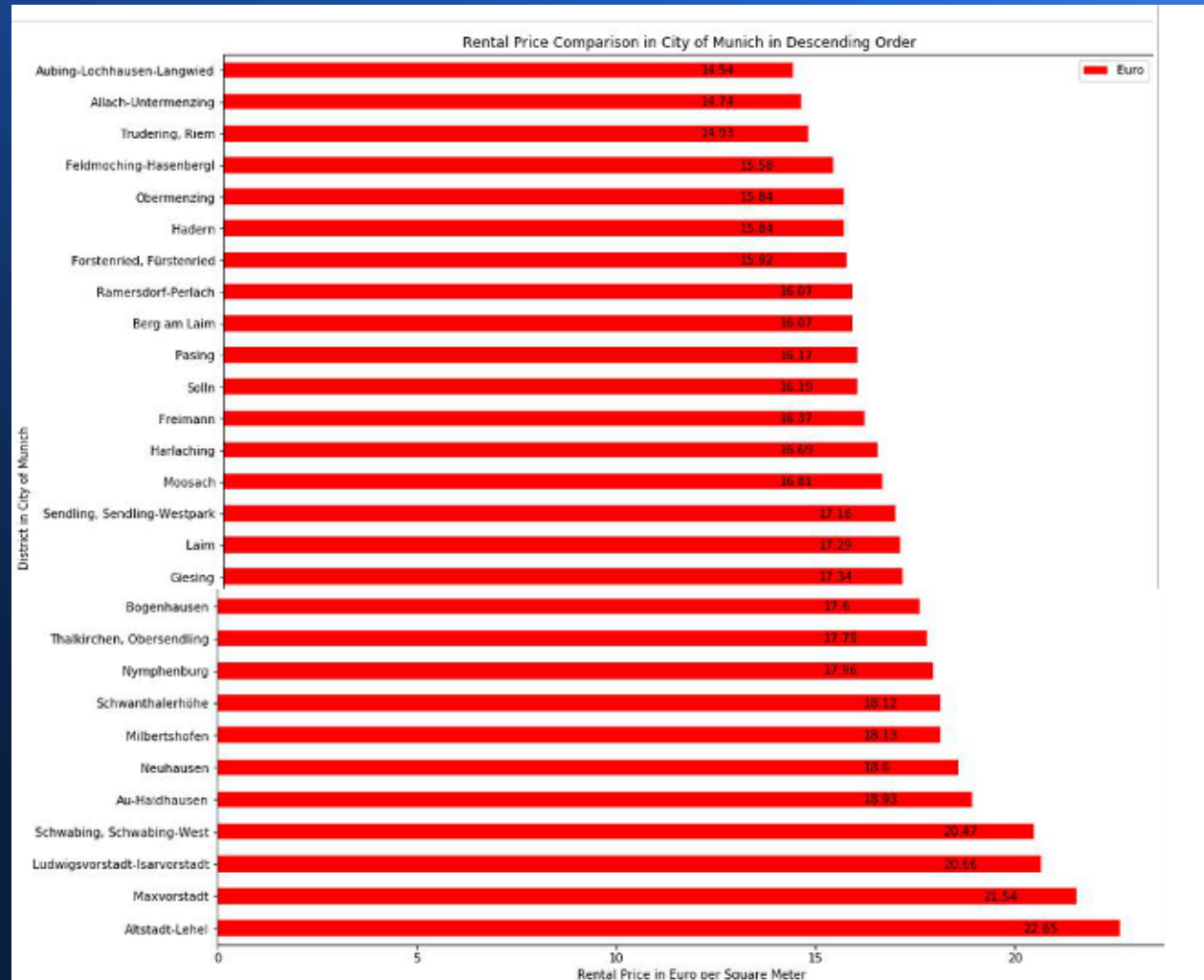
Price Categories per District



Red = High, Yellow=Medium, Green=Low, White=New Home

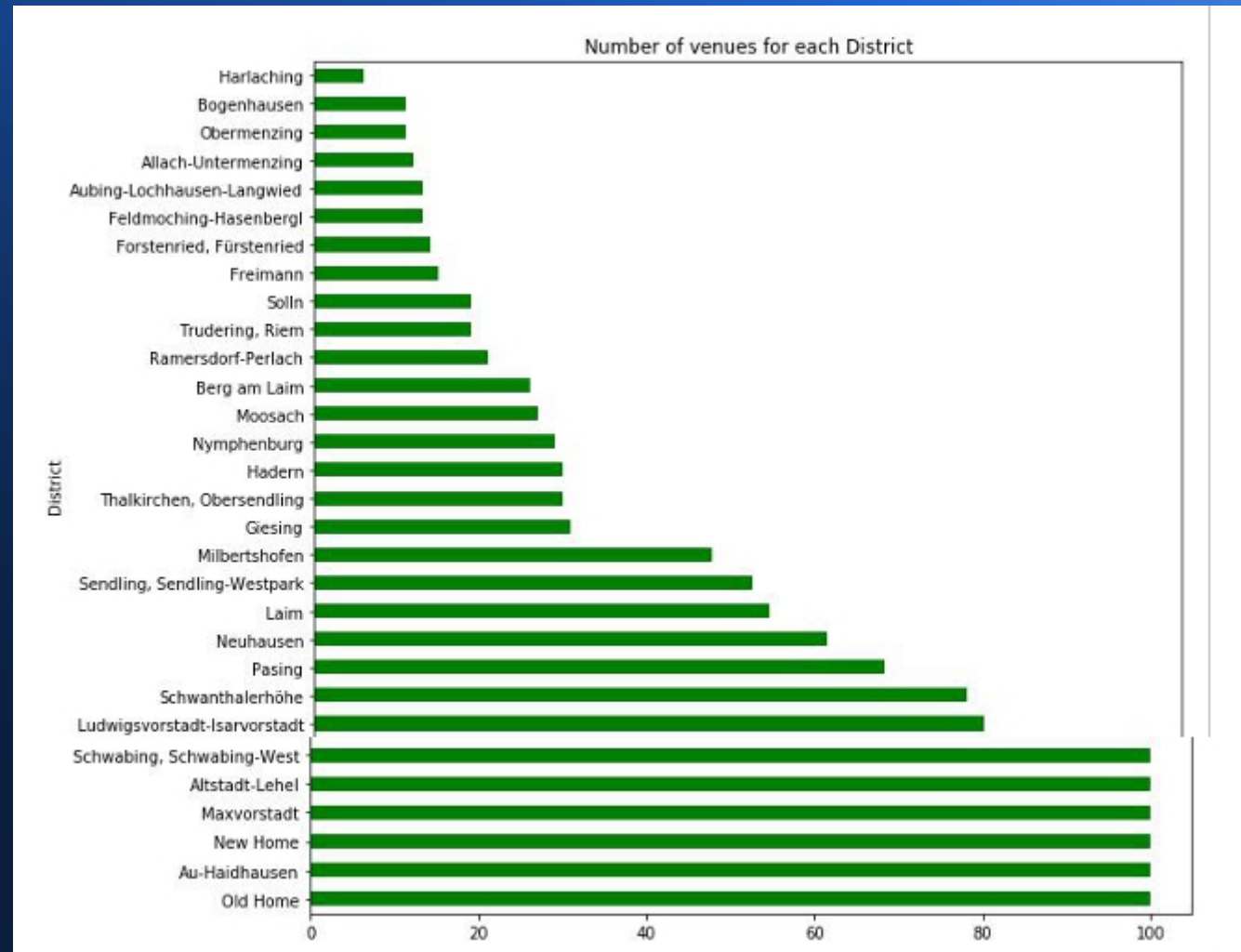
Results

Price per District



Results

Number of Venues per District



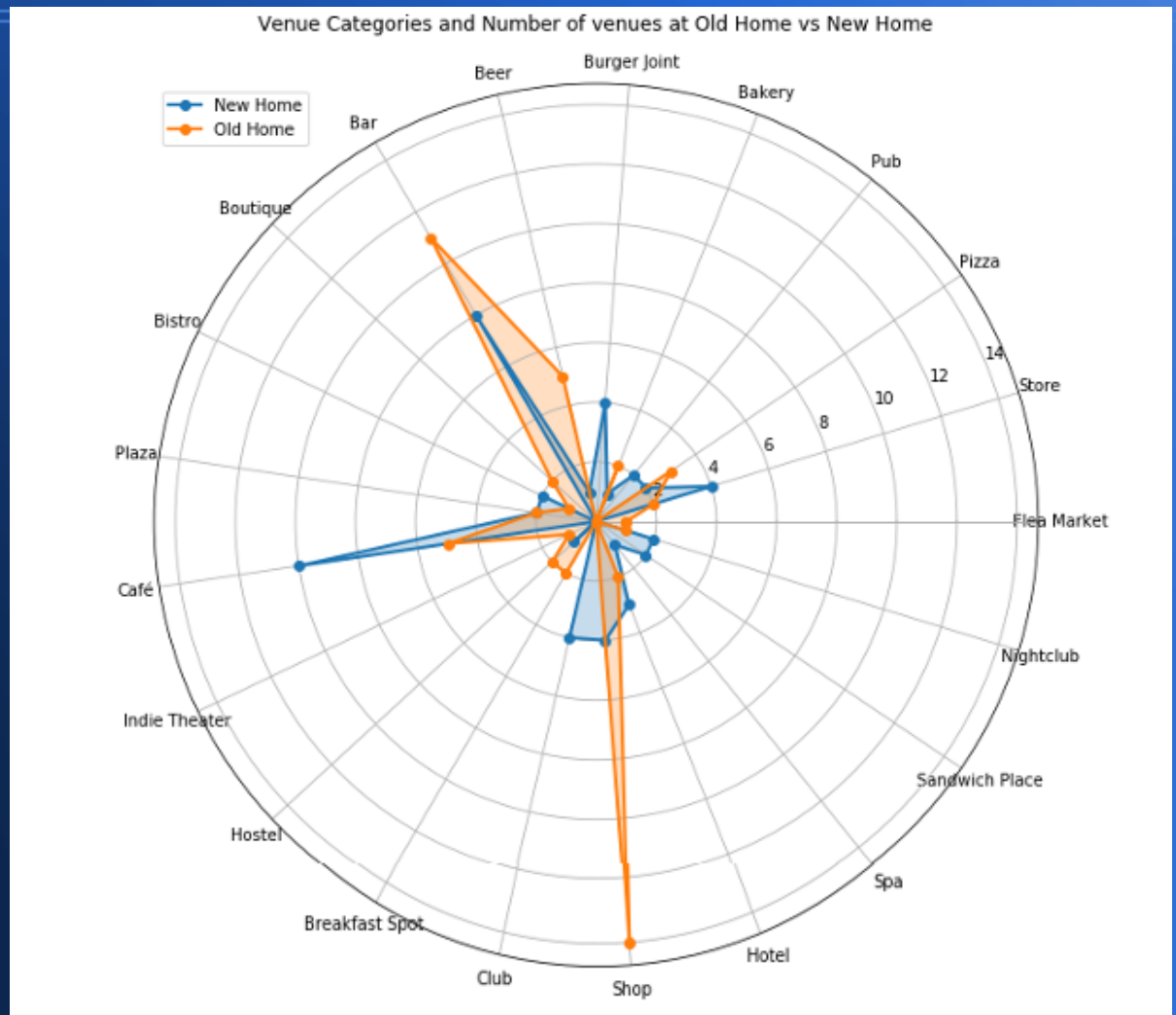
Results

15 most common venues in the 3 districts in focus

District	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue	15th Most Common Venue
Altstadt-Lehel	Restaurant	Store	Shop	Café	Bar	Hotel	Plaza	Boutique	Church	Pizza	Opera House	Museum	Fish Market	Organic Grocery	Farmers Market
New Home	Restaurant	Café	Bar	Store	Shop	Club	Burger Joint	Hotel	Nightclub	Sandwich Place	Pizza	Bistro	Pub	Plaza	Noodle House
Old Home	Restaurant	Shop	Bar	Café	Beer	Pizza	Plaza	Breakfast Spot	Hostel	Store	Hotel	Bakery	Boutique	Church	Nightclub

Results

Radar chart comparing old and new home location



Results

Word Cloud of the Top Munich district “Altstadt-Lethal”



Discussion

- New home in top 4 most expensive districts in Munich
- District offers a lot more venues in the immediate vicinity (750m) compared to the districts with lower rentals
- In direct comparison to old home location, the new home location also has lots to offer with similar places
- No shortage of restaurants in either location
- New locations has
 - double the number of cafes (10) in the 750m vicinity
 - has more burger places, nightclubs, clubs and stores
 - Fewer shops and bars

Conclusion

The new location is no worse in terms of attractions and the top district is right next door. Hence one can move to the new location with no regrets.

The interactive maps and Python code can be viewed at :

<https://nbviewer.jupyter.org/github/SvenVieh/Coursera---Capstone/blob/master/Capstone%20-%20Final.ipynb>