Choosing A Neighborhood in Chicago

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1. Introduction

1.1 Background

Chicago is a large city in the midwest, and attracts many new residents each year. It is often described as a "city of neighborhoods" where each area of Chicago has its own unique feeling and characteristics. Choosing a neighborhood when moving to such a varied and large city can be a daunting task, especially if you have spent little time in the city. Realtors and apartment agents can be little help, as they make decisions about what neighborhoods you might like with very little information (either about you, or both you and the neighborhoods themselves). Going out and exploring the neighborhoods yourself can be time consuming and much information (such as prices for apartments) is only available online and not in person.

In addition, Chicago is connected by an extensive metro and bus network, run by the CTA (Chicago Transit Authority). This is important to many new residents, as 42% of renters do not own a car.[1]

1.2 Problem

Given information about a new resident (price range for apartments, preferences for types of businesses in the neighborhood), can we use data about Chicago to match them to a neighborhood? One unique aspect of this project is that instead of recommending a neighborhood, my analysis recommends a train stop. The reasons for this are twofold: many neighborhoods have overlapping areas or many names. Data sources might label a neighborhood according to their own designations that do not coordinate with other data sources. There is no central authority on neighborhood names and many are disputed. The second reason is that distance to a train stop (and the train stops distance from downtown) can greatly affect how desirable an apartment, business or neighborhood is. Chicago can have extreme weather and without a car or parking lot, even a distance of 500m can be significant.

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[1] https://www.chicagomag.com/city-life/April-2015/no-cars-no-problems/

1.3 Interest

Anyone who is considering moving to Chicago, or has an interest in the neighborhoods would find this interesting. Also, people who already live in Chicago and are considering moving or even buying property would find this analysis useful.

2. Data Acquisition and Cleaning

2.1 Data Sources

Basic location data about CTA rail stations can be found on the Chicago Data Portal here. Additional data sets that will use the rail stations as a reference (based on longitude and latitude) are Foursquare data for types of businesses near each stop, and scraped apartment listings from Craigslist. This gave me the types of businesses near each CTA rail station, and the cost of an apartment near that train stop.