

Choosing a neighborhood to live in Porto Alegre

Marcus Vinicius Pereira

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1. INTRODUCTION

1.1 Background

Porto Alegre is the capital of the southernmost state of Brazil, Rio Grande do Sul. In Porto Alegre, approximately 1.5 million people live in an area of 496,682 km². The city was formed from the arrival of Azorean couples in the middle of the 18th century. Around the 19th century, the city received many German and Italian immigrants, as well as Spaniards, Africans, Poles and Lebanese.

In Porto Alegre, approximately 37% of people live in apartments. The city suffers from problems such as sub habitation, high cost of living and traffic jams. On the other hand, the city also stands out for being one of the best cities in Brazil to live, work, study and have fun.

1.2 The Problem

If someone were planning to move to Porto Alegre, it would be very useful to know which neighborhoods to consider when choosing a home. Those looking for housing do this type of neighborhood categorization intuitively. It would be much easier just by using demographic density, average income per housing and facilities in the neighborhoods, and then grouping them. Grouping the neighborhoods would greatly reduce the effort to find housing for a newcomer who does not know the city.

2. DATA

2.1 Data acquisition

Three data sources will be used, as follows:

- Wikipedia for data on population density and average income per housing in each neighborhood ([here](#))
- Foursquare API to get the most common venues of given neighborhood of Porto Alegre
- File downloaded from the Porto Alegre Observa POA website with the Porto Alegre neighborhoods area, in shp format ([here](#))

With these data, it is intended to group the districts of Porto Alegre by similarity, identifying each group by its characteristics.