The Best Canadian City To Live In, Financially

By: Evelyn Sugihermanto

Agenda

01
Introduction

02
Background

03
Methods & Results

04
Conclusion

Introduction

It's nearing the end of the MDS program. Have you made plans for post-graduation?

Particularly, where do you want to **work** and **live** after graduation?

Background

Cost of living and salary information are widely available on the internet

But, collecting, reviewing, and comparing that information manually can be a **hassle**

The **goal** of this project is to:

- Gather data **automatically**
- Create **model** to rank cities
- Present **recommendation** of the best city

Methodology

Data

Scrape

Export

Model

Present

Data source Numbeo.com

Python Requests and BeautifulSoup

Export data from Python to CSV

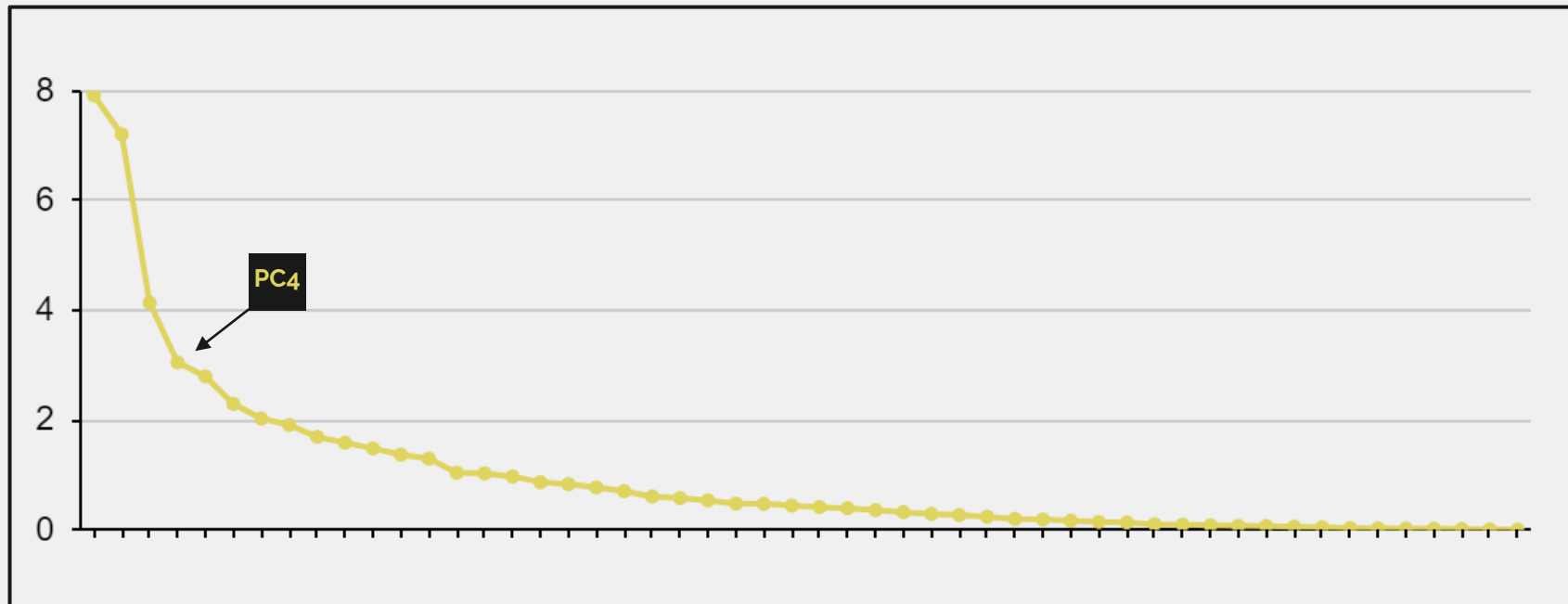Build PCA Model in R

Present Top Ranked Cities

Part 1 - Scraping

	Meal, Inexpensive Restaurant	Apples (1kg)	. . .	Apartment (1 BR) in City Centre
Kelowna	18	3.84	. . .	1628
Vancouver	20	4	. . .	2141.14
. . .	. . .	. . .	. . .	. . .
Toronto	20	3.93	. . .	2046.51

Part 2 – PCA Model

Scree Plot

Results – Loadings*

Apartment		Groceries		Lifestyle		Car, Beverage, Mobile, Beef	
PC1		**PC2**		**PC3**		**PC4**	
Rent - Apartment 1BR Outside City Centre	-0.32	Apples, 1kg	-0.25	Pair of Jeans	-0.34	Toyota Corolla	0.29
Rent - Apartment 1BR In City Centre	-0.31	Oranges, 1kg	-0.25	Pair of Men Leather Business Shoes	-0.27	Cappuccino, Regular	-0.26
Rent - Apartment 3BR In City Centre	-0.31	Onion, 1kg	-0.24	Taxi 1 hour Normal Tariff	-0.26	Domestic Beer, 0.5L	0.25
Rent - Apartment 3BR Outside City Centre	-0.31	Lettuce, 1 head	-0.24	Gasoline, 1L	-0.22	Prepaid Mobile Tariff, 1min	0.25
Buy – Apartment in City Centre per sq meter	-0.29	Monthly Transportation Pass	0.23	Meal, Inexpensive Restaurant	-0.21	Beef, 1kg	0.24

* Only showing the highest loadings, sorted by its magnitude

Results – Cost of Living Ranking

Based on average scores on 4 PCs

#	City	PC1	PC2	PC3	PC4	Average
1	Richmond	5.43	3.91	1.36	3.25	3.49
2	Burlington	2.42	-4.64	6.04	4.82	2.16
3	Pickering	0.74	7.00	-0.16	-1.12	1.61
4	Gander	3.82	-1.20	3.32	-0.19	1.44
5	Laval	3.83	3.07	-1.07	-0.39	1.36
6	Gatineau	3.11	1.46	0.31	0.34	1.31
7	Brampton	0.29	2.24	4.21	-2.07	1.17
8	Medicine Hat	3.53	0.24	2.11	-1.23	1.16
9	Belleville	1.64	0.31	1.12	1.15	1.06
10	Banff	-1.90	-0.59	0.22	6.08	0.95

Results – Avg Salary Ranking

#	City	Salary
1	North Vancouver	6243.75
2	Whitby	6183.33
3	Burlington	5083.33
4	Pickering	5066.67
5	Brossard	4958.33
6	Toronto	4916.43
7	Markham	4815.07
8	Fort Saskatchewan	4727.78
9	Burnaby	4596.94
10	Red Deer	4533.8

#	City	Salary
11	Surrey	4499.73
12	Mississauga	4496.41
13	Calgary	4488.34
14	Vancouver	4481.56
15	Oakville	4414.18
16	Victoria	4380.1
17	Edmonton	4290.23
18	London	4250.07
19	Coquitlam	4194.44
20	Brampton	4184.21

#	City	Salary
21	Banff	4112.5
22	Regina	4086.71
23	Richmond	4057
24	Ottawa	4051.66
25	Richmond Hill	3925
26	Halifax	3900.54
27	Sherbrooke	3846.52
28	Guelph	3839.48
29	Winnipeg	3813.43
30	New-Westminster	3783.33

Richmond – Surrounding Cities
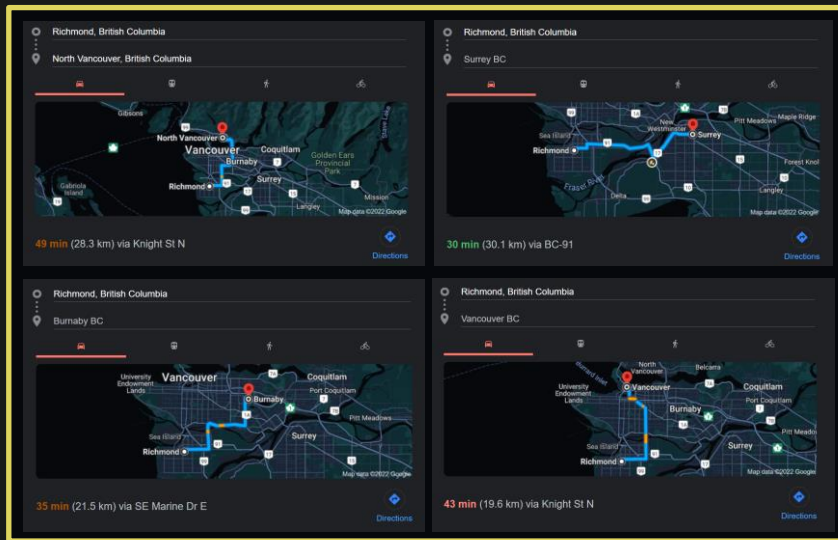
Conclusions

This project aims to give a recommendation of the best Canadian city to live in based on its financial feasibility.

Of course, there are lots of other things to consider when choosing your next home. But you can consider this as a starting point for your decision.

Thank You