Grad student life: Cost of Living @UBC

Explainer Article

Devyani M, Tommy N, Carol H
Problem

- Difficult living in Vancouver on CS Grad stipend
- Vancouver is expensive
  - $2,500 for 1-bedroom
  - 7% increase in food price in 2022
  - 8.8% inflation in 2022
- UBC CS graduates’ stipends between $19,000 - $33,000
- To focus on academics or making money?
Visualization goals

1. What are students’ current financial situation?

2. How can we characterize the current cost of living in Vancouver?

3. How does UBC compare to other universities?
Current Approaches

Obama Administration Interactive Budget

Geographical based approaches
Explainer Articles

A visual introduction to machine learning

In machine learning, computers apply statistical learning techniques to automatically identify patterns in data. These techniques can be used to make highly accurate predictions.

Keep scrolling. Using a data set about homes, we will create a machine learning model to distinguish homes in New York from homes in San Francisco.

(scrollytelling)
Data - Cost of Living Report

- January 2022 survey
- Anonymous reports
  - 94 grad students
  - 15 CS research areas
- Highlighted concerns:
  - Inflation
  - Food prices
  - Rent
  - Tuition
  - Quality of life

Figure 28: Extra work hours a week (aside from RAship and TAship, N = 25).
Data - Cost of Living Report

1. Basic Expenses
   Commute, food, health, housing, tuition, etc.

2. Quality of Life
   Gifts, pet, travels, etc.

3. Life Contexts
   Contextualizes personalized conditions

4. Funding Sources
   For graduate students

5. Workload
   For potential or other employment

6. Safety Net
   If/how one is able to manage current finances
Data - Inflation in Vancouver (2022)

Grocery prices in Canada continue meteoric ascent, rising at fastest pace since 1981

While overall inflation moderated in August, the cost of food purchased from stores was up a staggering 10.8 per cent compared with a year ago.

The Canadian Press
Brett Bundale

### Annual Inflation

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1.4%</td>
</tr>
<tr>
<td>2014</td>
<td>1.6%</td>
</tr>
<tr>
<td>2015</td>
<td>3.4%</td>
</tr>
<tr>
<td>2016</td>
<td>4.5%</td>
</tr>
<tr>
<td>2017</td>
<td>11.9%</td>
</tr>
<tr>
<td>2018</td>
<td>4.8%</td>
</tr>
<tr>
<td>2019</td>
<td>5.2%</td>
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<tr>
<td>2020</td>
<td>-0.8%</td>
</tr>
<tr>
<td>2021</td>
<td>1.2%</td>
</tr>
<tr>
<td>2022</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

[https://vancouver.ca/home-property-development/annual-inflation-index.aspx](https://vancouver.ca/home-property-development/annual-inflation-index.aspx)
Data - Cost of living vs funding

Cost of living in $X$ city

Stipend offered by $Y$ university

UBC
University of Toronto

MIT

McGill

ETH Zurich
Our Solution

Welcome!
In May 2022, some UBC Computer Science (CS) graduate students distributed surveys to the other students in the department to determine how well students were being supported by their current stipends. This explainer uses the survey data, and data from government and university websites to demonstrate the current cost of living situation in Vancouver (as of Dec 2022), see how students are being supported, and compare your own budget to that of an average CS graduate student. Scroll through the article for more information!

Grad student life:
Cost of Living @UBC

"I am more stressed now about my financial situation than during my undergrad when I had to take out loans." 
"The cost of living in Vancouver is unmanageable." - Quote from student

So what expenses does a UBC CS grad student have?

Looking for the latest updates?

Devyni M, Tommy N, Carol H | CS Grad Cost of Living | 2022WT1 | CPSC 547
DEMO

Github link🔗
Strengths

● **Interactivity**
  ○ Allows for more engagement to strengthen understanding of data
  ○ Readers can engage with visualization with their own financial data for more insightful comparisons

● **Scrollytelling**
  ○ Makes data more accessible to the average reader
  ○ Walk readers through a narrative that is accentuated by data and converge on a call to action
Limitations & Lessons Learned

● Explaining derived data is difficult
  ○ How to properly explain CPI?

● Not all data may be accurate
  ○ Cost of living & stipend amounts from other universities outside of BC

● Unclear how "effective" visualizations are
  ○ No formal or informal user testing was conducted

● (unsurprisingly) D3 is hard
Future Work

- **Further interactivity**
  - Allowing users to interact with the tree map

- **Creating comparison budget checker**
  - Allowing users to compare their full budget against an "average"
  - CS grad student
  - Allowing users to add their own data to the data set
Contributions

- Providing easy to understand visual characterization of current CS grad students’ financial situation
- Explaining financial data in an accessible "explainer" format
UBC CS Graduate
Cost of Living

Thank you!