

Predicting Calgary Housing Prices

ENSF 612 Big Data Presentation

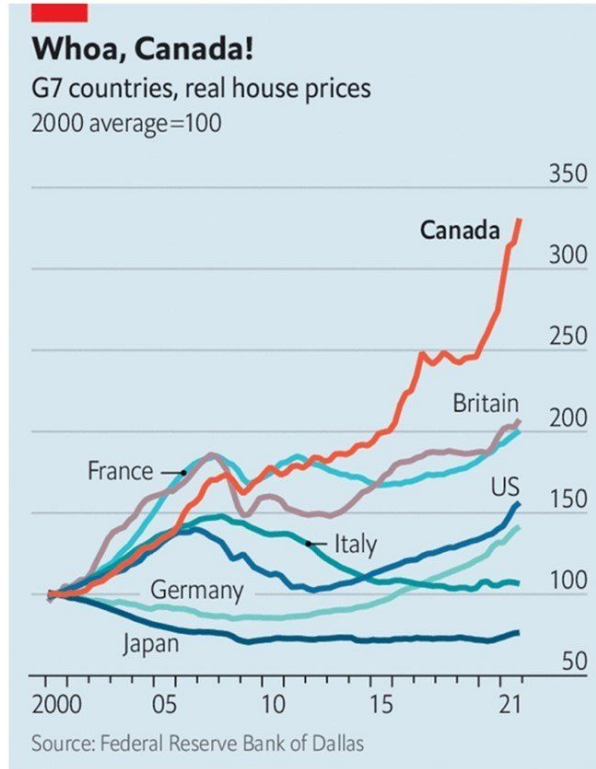
Corey Yang-Smith, Mehreen Akmal, Eric Diep, Jenn Bushey, Hao Liu



Why is it important?

Immigration and **population growth** boost housing demand, exerting upward pressure on prices due to supply-demand imbalance, constrained by public funding and **construction resources**.

Low **crime rate** and healthy **employment rates** generally contribute to rising house prices, yet when these factors do not contribute the way we expect, it is important to dig deeper to understand the implications for **affordability** and city growth.





Collect Data

City of Calgary Open Data Portal:

- [Calgary Census Data \(1998-2019\)](#)
- [Development Permit Applications](#)
- [Building Permits](#)
- [Calgary Prosperous City Indicators \(2016-2018\)](#)
- [Community Crime and Disorder Statistics](#)
- [Calgary Assessed Property Values](#)

Statistics Canada:

- [Interprovincial Migration Data](#)

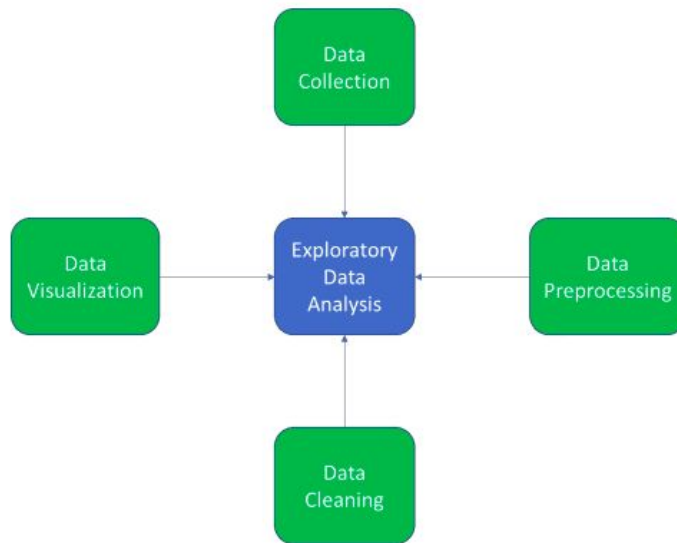


[Source](#)



Exploratory Data Analysis

- Inspect quality of data
- Extract data subsets
- Transform data
- Explore various EDA and modeling techniques:
 - Conduct a correlation analysis to assess the relationships between all features
 - Visualize the data through scatter plots and heatmaps to identify any patterns or clusters that may exist in the dataset



[Source](#)



Build Models

Final Dataset

- Features
 - Population
 - Income
 - Age
 - Family Size
 - Community Crime Rate
 - Dwelling Type
- Target Variable: Housing Prices

Model Selection

- Supervised Learning
 - Linear models : Linear Regression and Logistic Regression
 - Non-Linear Models : Polynomial Regression
- Ensemble Models

