Buy vs Rent

By: Shahriar Nekouei , Rishekesan Senthil Kumar Vanathi, Pranav Unnikrishnan

[Github Link](#)

[Website](#)

1. **Introduction** (Website TAB: "Introduction"):
   Write at least five paragraphs (minimum 10 sentences each) that introduce your topic.
   Include images to help explain the topic but avoid discussing methods, models, or datasets.
   Focus on:

- **The nature of the topic**

   The topic that we are tackling in this project is housing and its affordability in the form of comparison between renting and buying. Throughout the years, we have seen fluctuations in the prices of rents, monthly mortgages and how it has affected the economy in our modern world. Housing and its affordability are the very essence of a good economy. Its affordability can make a country flourish, and its scarcity can bring a nation to its knee. In the first world countries, one of the most repeated and unanswered economical questions is "Is renting better or Buying?" and the answer has always been similar "It depends." It is one of those questions that does not have a definitive answer, yet again, we keep asking it. There are many factors affecting the decision between the two, which we will be going through in this project to answer this repeated yet again important question with respect to the time we are living in.

- **Why it is important**

   Based on Maslov's hierarchy of needs, shelter is the single most important and basic need of a person after physiological needs such as Air, food, and sleep. In fact, it is intertwined with sleeping since from the preliminary stages of evolution, humans were constantly in search of a safe place away from predators and rivals to take shelter. A few million years later, and we

are still in search of shelter but in a totally different way. The question is not whether this place is safe or warm, but rather should a person commit him or herself to a single 2000 square fit place for 30 years, or should he or she arrange temporary accommodation? The importance of whether renting is better or buying changes based on the economical time that we are living in. Recently because of the tough economic times, and astronomical property and rent prices which mostly the younger generation are facing this question has gained more weight.

- **Who is affected**

There is not a single adult person who has not been affected by the increase in housing prices. From a tycoon real estate investor to a homeless person has been affected by fluctuation in the price of real estate but in a whole different way. But our point of focus is people who have not bought their first house yet. These people mostly belong to the millennial and early generation z groups. They are either renting or living with their parents. These people are the ones who are debating and are interested to know if they will be better off renting or buying in the near future. The hope for this project is to provide some insight to this group of people, and some insight into what the future has in store for them in terms of housing. This project is focused on Colorado, which has experienced drastic changes in property value, rate of homelessness, and housing shortages in recent years.

- **What has been done so far and what gaps remain**

The price of rent and monthly mortgage follows the same classic economical pattern of supply and demand. When supply increases, demand decreases and so does price. One of the main problems with Colorado housing crisis is the shortage of housing. Colorado's desirability of living has drastically increased since 2013 because of legalization of marijuana and later took another increase with Covid-19 and people's ability to work remotely. The solution of the Colorado State Government has been encouraging denser housing, with passing bills such as HB24-1313. Although, our focus is a predictive analysis of Buy vs Rent in state of Colorado in the near future, we have to knowledge the very reason

which leads us to this topic at the first place and that is the major increase in the prices of housing in the state of Colorado.

- **Final word before the start of this project**

We do know that this subject is one of the most complex problems of our times which the absolute best of economists, statisticians, and politicians do not have a clear answer for. Yet again, we could not find any more important topic than this for the younger generation, which includes all members of the group behind this project.
We chose Renting vs Buying because we needed a closer scope into a bigger picture which is the unaffordability of housing in our current time. This topic will make us dive into other economic topics such as inflation and unemployment, but again, our focus is on affordability of housing and our ultra-focus will be on the comparison of Renting vs Buying.

You must also include ten questions related to your dataset that you aim to answer. Ensure these questions are practical and relevant to real-life applications.

1. How is inflation related to rent and mortgage prices?
2. How is unemployment related to the prices of rent and mortgages?
3. Has it historically been better to rent or buy in the state of Colorado?
4. Is Colorado experiencing a faster turnaround in terms of house sales?
5. What is the relationship between the size and amenities of a property with its mortgage in comparison to its rent?
6. Is the price fluctuation in rent and mortgage uniform among different cities in Colorado?
7. Are there seasonal trends related to rent and mortgage?
8. What is the connection between the price of rent and mortgage with the quantity of the houses in the market?
9. Do the areas have a volatile rent/mortgage factor?
10. What portion of houses in the market have been for sale or rent?