**Name: Kalle Reaves**

# Title: A look into factors that are considered when pricing a house and how prices have increased over time

# Description of Project

Housing prices have been on the rise because of many factors. These include higher interest rates, inflation and the buying of homes by corporations. Many millennials, and those born after that period have severe difficulty buying a house. In this project I will use analysis methods such as linear regression, and time series analysis to dive into factors that are considered when pricing a house. These factors include location, size, amenities, bedrooms and many other factors. I will then look at the increase in housing prices in the period between 1973 and now. This will help to see how prices have increased in this period and if they match inflation. I will then use this to predict the viability of buying a house in the future.

# Deliverables

1.Python/Jupyter notebook source code, SQL source code

2.SQL tables used to organize data

3.results from predictive models

4.Heat maps showing prices by state

5.Heat maps/graphs showing increase of prices

6.Representation of what factors affect prices the most. (bubble graphs, time series graphs showing increases over time)

# List of learning objectives

1.Collect relevant data

2.Organize, and clean data so it can be properly analyzed

3. Use various methods and tools including linear regression, data organization, time series analysis, and visualization to understand the data

4.See what affects housing prices

5. Look into data to see what factors increase prices the most

# Technical Implementation

I will look at a various sources including Kaggle, Zillow, U.S. Census bureau, Bureau of economic analysis, and property appraiser data. I will organize this data in a sql database to build tables to extract data. Then I will convert these tables to dataframes in python and use various methods to analyze the data. Once I have my findings I will visualize the data using some BI tool like tableau and then explain in my report.

# Job descriptions

**Job 1. Business Intelligence (BI) Analyst**

Job Description:  
BI Analysts help organizations understand performance metrics and business trends by designing and maintaining dashboards, and delivering strategic insights to stakeholders.

**Typical Responsibilities:**

Develop interactive dashboards using BI tools

Monitor KPIs and business performance

Provide reports to management for decision-making

Translate business needs into technical solutions

**Job 2. Geospatial Analyst / Location Intelligence Analyst**

**Job Description:**  
These analysts work with spatial data (maps, coordinates, regions) to uncover trends and patterns related to geography. They may work in urban planning, logistics, or environmental analysis.

**Typical Responsibilities:**

Analyze geospatial data (e.g., housing prices by ZIP code)

Create interactive maps and spatial visualizations

Use GIS tools for distance/proximity analysis

Integrate maps with business insights