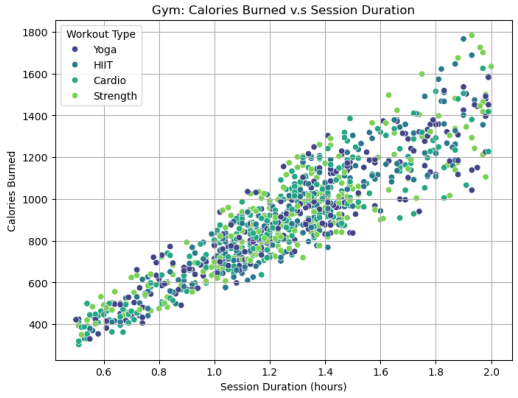
# Gym Visualization Project

## 1 Introduction

In this project, I analyzed a dataset of gym members' exercise data, using various visualization techniques to effectively present insights discovered within the data. The data consisted of variables such as Age, Weight, Height, Average Beats per Minute, Workout Type and many more. As I show every visualization, I will explain the variables and explained what I learned from the information

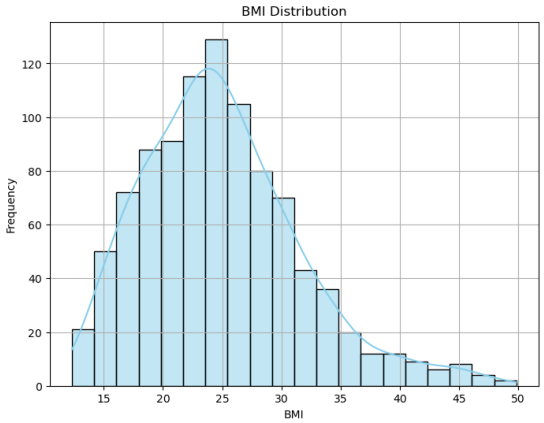
## 2 Visualization

### 2.1 Calories Burned v.s Session Duration



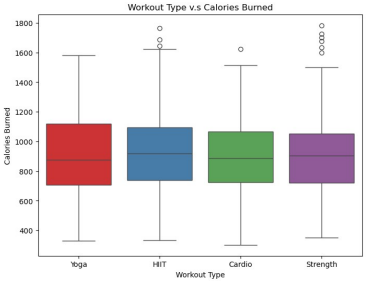

This scatterplot indicates a positive correlation between session duration and calories burned. So the longer an individual works out, the more they will burn. We can see that all workouts tend to have similar amounts of calories burned.

## 2.2 BMI Distribution



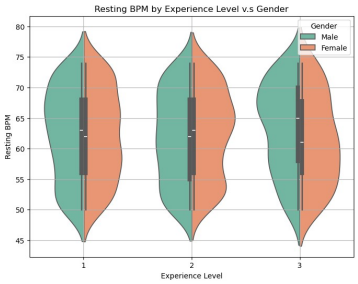

This visual shows a right-skewed distribution of BMI with the peak being around 25. We can access that most people have a bmi from around 20-25, which indicates a healthy BMI range. The skewness indicates that there are some people with higher BMIs, where it can be individuals working on their health.

## 2.3 Boxplot: Workout Type v.s Calories Burned



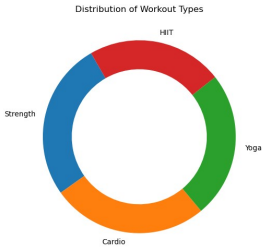

From this boxplot we can access multiple different information. We notice that the median for calories burned is about the same, which means any form of excessive will burn similar calories. Some of the spreads however are different. For example Yoga has a larger spread of values while strength training has the lowest. This can mean Yoga can varied intensity while strength training remains similarly intense throughout.

## 2.4 Violin Plot: Resting BPM v.s Gender




This diagram is a violin plot where experience level goes from 1 to 3 (beginner to expert). It shows us that the approximate range of resting BPM is 45 to 80 at all levels. All the experience levels have the same width, which indicates similar distributions of data. We can that most of the data is concentrated around 60-70. The white dots show us the median and between the black bars show the middle 50

## 2.5 Donut Plot: Workout Distribution




This shows a nice distribution of workout types. From the data we can see that all workout types are evenly used by individuals.

# 3 References

Khorasani, V. (2023). *Gym Members Exercise Dataset*. Kaggle. Retrieved from https://www.kaggle.com/datasets/valakhorasani/gym-members-exercise-datasethttps://www.kaggle.com/data members-exercise-dataset