

# Research Proposal

## Research Topic:

Assessing the Impact of Lifestyle Factors on Heart Attack Risk in Global Populations

## Project overview

Research aims to understand and combat the global challenge of heart attacks. The "Heart Attack Risk Prediction Dataset" is an excellent resource for study and analysis in healthcare and medical data science. The dataset's main goal is to predict the risk of heart attacks in individuals based on a variety of health-related characteristics. It makes a substantial contribution to our understanding of heart attack risk factors and the advancement of healthcare preventative approaches. This set of data, which includes 8763 information from patients worldwide, comes to an end in a substantial binary classification component that indicates the existence or failure of a heart attack risk, giving a complete resource for predictive analysis and cardiovascular health research. This multidisciplinary initiative improves our understanding of cardiovascular health by changing risk assessment and treatment for overall wellness.

## Dataset Source:

We collected data from Kaggle.com, and chose the dataset about heart attack prediction. [The Link.](#)

## SMART Research Questions:

**S- Specific, M-Measurable, A-Achievable, R-Relevant , T-Timing**

Some **SMART** questions we are interested in answering are:

1. How do variations in diet, exercise, and stress levels correlate with the incidence of heart attacks across different income brackets and continents, and what patterns emerge when comparing these factors with cholesterol and blood pressure levels within these populations?
2. What is the relationship between cholesterol levels, does it contribute to heart attack risk?
3. How do age and gender interact as determinants of heart attack risk and are there age specifics or gender-specifics patterns?
4. Which factors are the strongest predictors of heart attack risk within this dataset?
5. Is there a combination of factors that significantly increases the heart attack risk?

**Model Method:** This research would probably employ a Logistic Regression Modeling method.

## GitHub Repository Link:

[https://github.com/AARONYOUNG2023/GWU\\_6103\\_Team4](https://github.com/AARONYOUNG2023/GWU_6103_Team4)

## Team Members:

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