Heart Disease Analysis Project Documentation

1. Introduction

This project analyzes the Heart Disease dataset and creates meaningful dashboards using Tableau. The project is integrated with Flask to demonstrate web embedding.

2. Objective

To identify patterns and insights related to heart disease using data visualization and publish the dashboard online.

3. Dataset Details

Dataset contains 4500+ rows with fields such as Heart Disease, BMI, Smoking, Alcohol Drinking, Stroke, Race, Physical Activity, Mental Health, etc.

4. Tools Used

• MySQL

• Python Flask

• Tableau Public

• HTML/CSS

5. Data Preparation

Steps included data cleaning, removing duplicates, formatting fields, and preparing data for Tableau visualizations.

6. Visualizations

Created multiple charts:

• Age vs Heart Disease

• BMI vs Heart Disease

• Smoking impact

• Physical Activity

• General Health impact

• Race comparison

• Story showing narrative insights

7. Performance Testing

Dataset size: ~4500 rows

No. of visualizations: 10

No calculation fields: Minimal for performance optimization.

8. Publishing

Dashboard published to Tableau Public using Save to Tableau Public feature.

9. Web Integration

The dashboard is embedded into a Flask web application using Tableau JavaScript API.

10. Conclusion

The analysis shows strong correlation between lifestyle factors and heart disease. Flask integration successfully demonstrates web-based visualization deployment.