# Nutrition Paradox: A Global View on Obesity and Malnutrition

## Project Overview

Objective:

To explore and analyze the coexistence of obesity and malnutrition across countries and demographics globally using WHO datasets.

## Components of the Project

- WHO datasets on obesity and malnutrition.

- Cleaned and structured data into 'obesity' and 'malnutrition' tables.

- Fields: Country, Year, Gender, Age_Group, Mean_Estimate, CI_Width, Level.

## Exploratory Data Analysis (EDA)

- Visualized trends over time.

- Compared top countries.

- Regional distributions via box plots.

- Obesity vs Malnutrition correlation scatter plots.

## SQL-Based Analytical Insights

- 10 queries each for obesity and malnutrition.

- 5 combined queries for holistic analysis.

- Gender, age, regional trends and disparities.

- Trend comparisons and reliability (CI width).

## Streamlit Dashboard Features

- Filters: Region, Year Range, Country Search.

- Visuals: Line, Bar, Box, and Scatter charts.

- Backend: MySQL with SQLAlchemy

- Frontend: Streamlit + Plotly

## Insights & Takeaways

- Rising obesity in developed and some developing countries.

- Persistent malnutrition in parts of Africa & South Asia.

- Coexistence indicates inequality & dietary transition.

- Gender and age significantly influence nutrition.

- CI width used for result reliability.