## **Project Ideas**

**Project Idea 1: Exploring the Relationship Between Gun Violence and Policy: A Data-Driven Analysis**

**Dataset:** FBI\_background\_checks\_1999\_2020 ([link](https://www.kaggle.com/datasets/claudecostantini/fbi-background-checks-1999-2020)), US Gun deaths by County 1999-2019 ([link](https://www.kaggle.com/datasets/ahmedeltom/us-gun-deaths-by-county-19992019))  
**Description:**This project seeks to investigate the relationship between gun violence and gun control policies, focusing on the role of background checks as a preventive measure. The analysis will utilize two primary datasets: the FBI's National Instant Criminal Background Check System (NICS) data, covering background checks conducted from 1999 to 2020, and gun-related mortality data from the Centers for Disease Control and Prevention (CDC), detailing gun deaths by county from 1999 to 2019.

The project aims to identify correlations between the frequency and rigor of background checks and the incidence of gun-related deaths across different U.S. counties. By examining trends over time and across various regions, the project will explore whether more stringent background check policies correspond with a reduction in gun violence. Additionally, the analysis will consider other factors such as changes in state-level gun control laws, demographic variables, and economic conditions to provide a comprehensive understanding of the relationship between policy and public safety.

### **Project Idea 2: Analyzing the Impact of Renewable Energy Adoption on Global CO2 Emissions**

**Dataset:** Renewable Energy Adoption and Climate change ([link](https://www.kaggle.com/datasets/ravixedmlover/renewable-energy-adoption-and-climate-change-resp))  
**Description:**This project aims to explore the relationship between the adoption of renewable energy sources and the reduction of CO2 emissions worldwide. As climate change policies and initiatives have accelerated the transition to renewable energy, it's essential to understand the environmental and economic impacts of this shift. The dataset includes detailed information on renewable energy production, investments, policy changes, environmental impact, installed capacity, renewable energy share, and job creation from 2010 to 2023. It covers various renewable energy sources such as solar, wind, hydro, geothermal, and biomass, across different countries and regions.

The dataset draws on authoritative sources like the International Energy Agency (IEA), World Bank, and United Nations Environment Programme (UNEP), making it a valuable resource for researchers, policymakers, and data enthusiasts interested in the interplay between renewable energy adoption and environmental impact.

**Project Idea 3:** **Analyzing the Impact of Fruit Consumption Habits on Health Outcomes**

**Dataset:** Fruit Consumption Habit ([link](https://www.kaggle.com/datasets/zain280/fruit-consumption-habits))

**Description:**This project will investigate the relationship between fruit consumption habits and various health outcomes, using the comprehensive Fruit Consumption Habit Dataset. The dataset includes detailed information on individuals' eating behaviors, such as frequency of fruit consumption, preferred types of fruits, reasons for choosing specific fruits, and any associated health considerations. Demographic details, including age, gender, and location, are also included, allowing for a nuanced analysis of how fruit consumption varies across different populations.

The project aims to identify patterns in fruit consumption and explore how these habits correlate with health outcomes like obesity, cardiovascular diseases, and vitamin deficiencies. By examining factors that influence fruit consumption—such as taste preferences, health awareness, and accessibility—the analysis will provide insights into the barriers and motivators for healthy eating.

This research could be particularly valuable for nutritionists, policymakers, and healthcare professionals looking to design targeted interventions that encourage healthier eating behaviors. By understanding the factors that drive fruit consumption and its impact on health, stakeholders can develop strategies to promote increased fruit intake, thereby improving public health and reducing the prevalence of diet-related diseases.