COVID-19 Global Dashboard

- Access web app from: `site`

An interactive, data-driven dashboard for visualizing and analyzing global COVID-19 statistics using real-time API data. This project demonstrates my ability to work with public health data, clean and transform it, apply machine learning, and present insights through modern visual tools.

> **Built entirely by me using Python, Streamlit, Plotly, Pandas, and Scikit-Learn.**

Features

- **Live API integration** for up-to-date global and per-country COVID-19 stats
- **Bar charts** of top N countries by total cases
- **Choropleth map** to visualize spread by country and metric
- **KMeans clustering** to categorize countries by risk (using unsupervised machine learning)
- **Country profiles** with key health indicators
- **Global and country-level historical trends** (30-day)
- **Country comparison** across multiple health indicators
- **Downloadable data** (CSV)
- **Auto-refresh toggle** for dynamic updates

Sample Visualizations

Global Metrics	Risk Clustering (KMeans)
	

Tech Stack

- **Python**
- **Streamlit** for UI & interactivity
- **Plotly** for interactive charts & maps
- **Pandas** for data manipulation
- **Requests** to call the `disease.sh` API
- **Scikit-Learn** for KMeans clustering

Data Source

- COVID-19 data from: `disease.sh`
  - Endpoint used: `/v3/covid-19/countries`
  - Historical data: `/v3/covid-19/historical/all` and `/historical/{country}`

Setup Instructions

1. Clone this repo:

```
git clone https://github.com/AlvinKiprotich-dev/covid19-dashboard.git
cd covid19-dashboard
```