

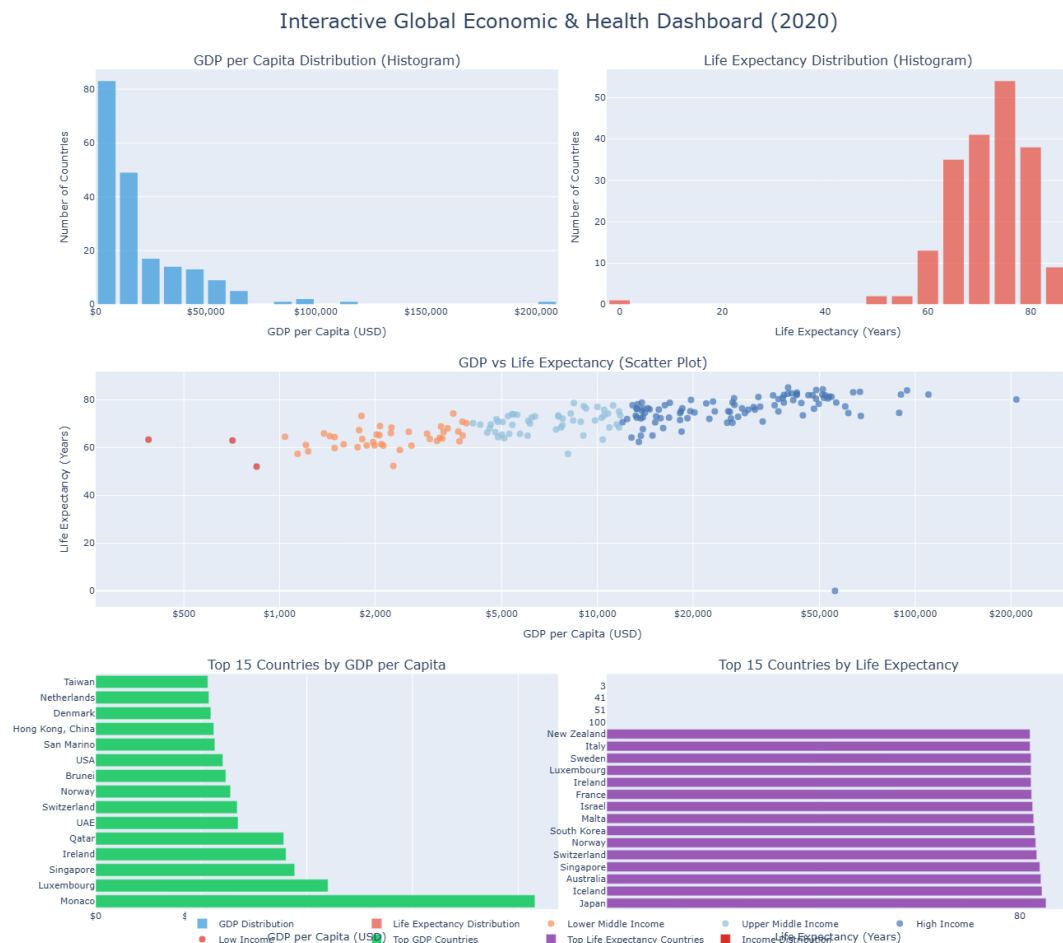
GDP per capita and Life expectancy Analysis for countries using AI powered Agent (Julius with Python as coding language)

By

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- Data used for the analysis was obtained from Gapminder's data repository: <https://gapminder.org/data>

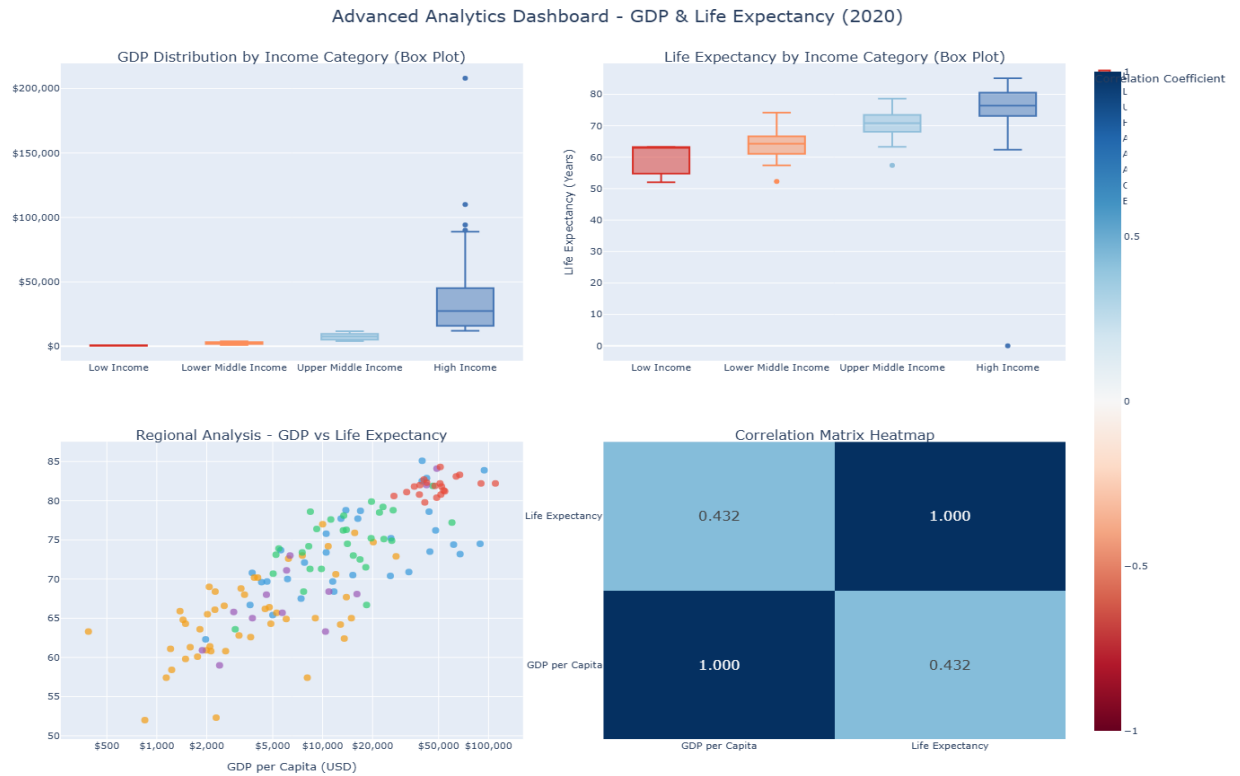
1. Interactive dashboard visualizing Global Economic & Health Dashboard) GDP per capita and life expectancy data through histograms, scatter plots, and bar charts of the corrected data



- This primary dashboard features 6 key visualizations:
- GDP Distribution Histogram - Shows the spread of wealth globally
- Life Expectancy Distribution Histogram - Reveals health outcome patterns
- Interactive Scatter Plot - GDP vs Life Expectancy with income category color coding
- Top 15 GDP Countries Bar Chart - Wealthiest nations ranked

- Top 15 Life Expectancy Countries Bar Chart - Healthiest nations ranked
- Income Categories Distribution - Breakdown by World Bank classifications

2. Advanced Analytics Dashboard – GDP & Life Expectancy (2020)



- This analytical dashboard includes 4 specialized visualizations:
 - Box Plots by Income Category - Statistical distributions for both GDP and life expectancy
 - Regional Scatter Analysis - Geographic patterns with continent-based color coding
 - Correlation Heatmap - Quantitative relationship analysis

3. Comprehensive Summary Dashboard – Global GDP & Life expectancy (2020)



- This summary dashboard provides 6 overview visualizations:
- GDP & Life Expectancy Quartile Analysis - Population distribution across performance tiers
- Income Category Breakdown - Country counts by economic classification
- Regional Averages - Continental performance comparisons
- Key Statistics Table - Essential metrics and record holders

- **Three comprehensive dashboards have been created:**

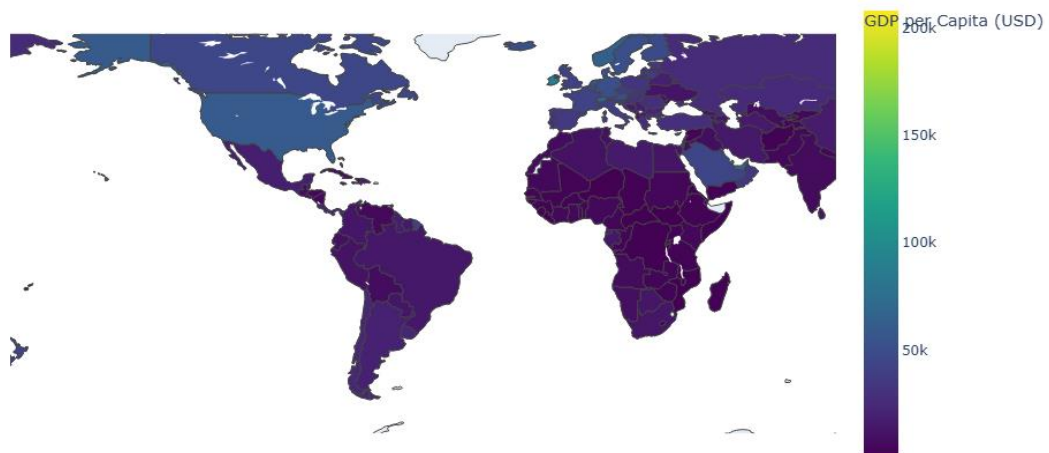
1. Main Interactive Dashboard (6 visualizations)
2. Advanced Analytics Dashboard (4 visualizations)
3. Comprehensive Summary Dashboard (6 visualizations)

- **Key findings from the analysis:**

- Strong positive correlation between GDP and Life Expectancy: 0.432
- Total countries analyzed: 195
- Average global GDP per capita: \$20300
- Average global life expectancy: 71.7 years
- Regional leaders:
 - Highest GDP region: Europe (\$51860 avg)
 - Highest life expectancy region: Europe (81.8 years avg)

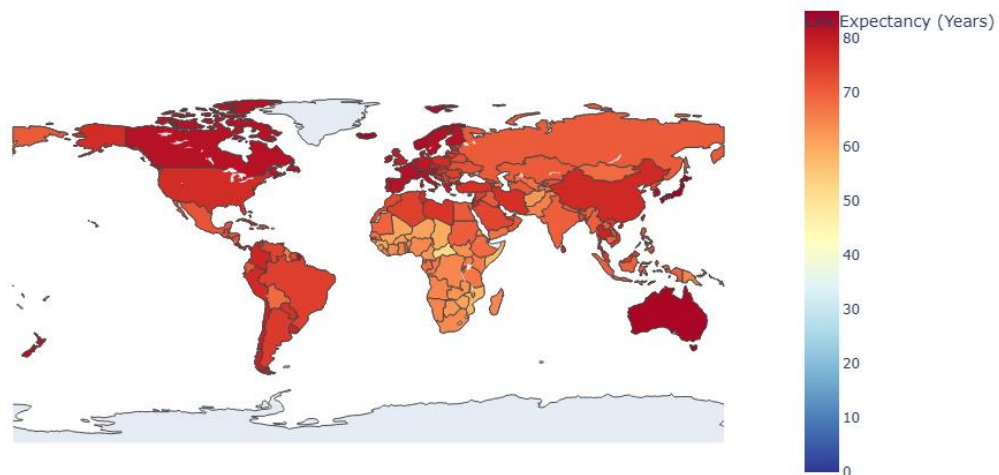
4. GDP per Capita by Country (2020)

GDP per Capita by Country (2020) - Corrected Data



5. Life Expectancy by Country (2020)

Life Expectancy by Country (2020) - Corrected Data



Reflections:

- Access was easy; the challenge is picking the right tool for each task.
- Knowing each tool's strengths/limits and switching when stuck—is essential.
- discovered diverse tools (Julius, Cursor) and data libraries (Geodata, Plotly, Gapminder).

- Biggest surprise: huge datasets analyzed with a click, plus customizable outputs and visualizations.
- Clear, specific context and iterative prompts consistently improve results.
- Glad to learn so many semantics e.g AI Agent
- Forward-looking plan: define the goal → choose the best-fit tool → state constraints → iterate.