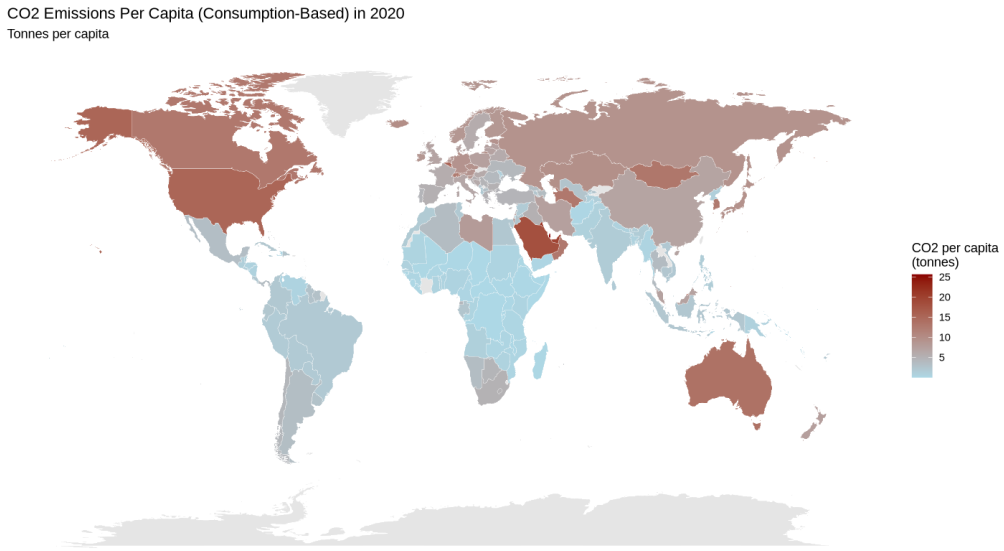
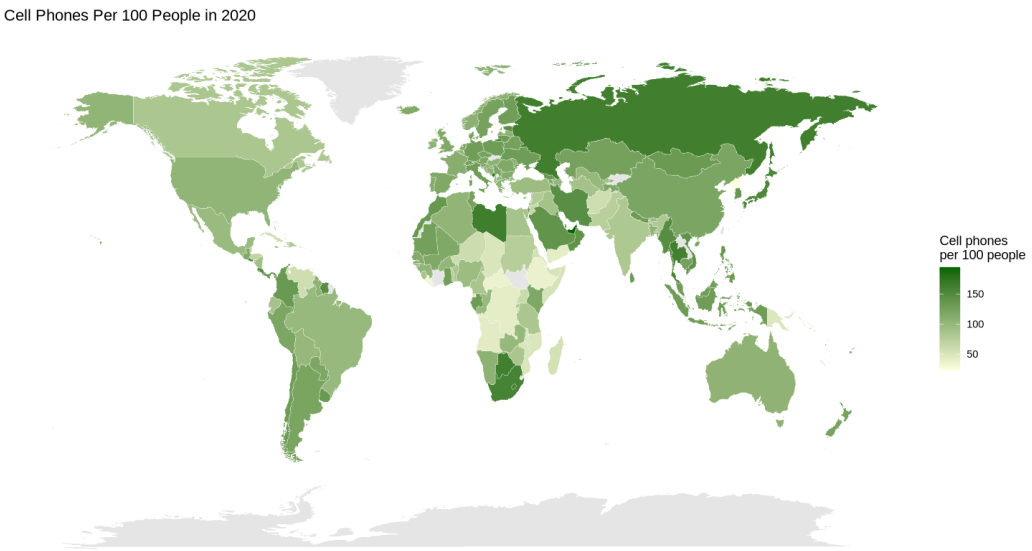
Cell phones cause C02 emmissions

A very clickbaity title for a very weak correlation

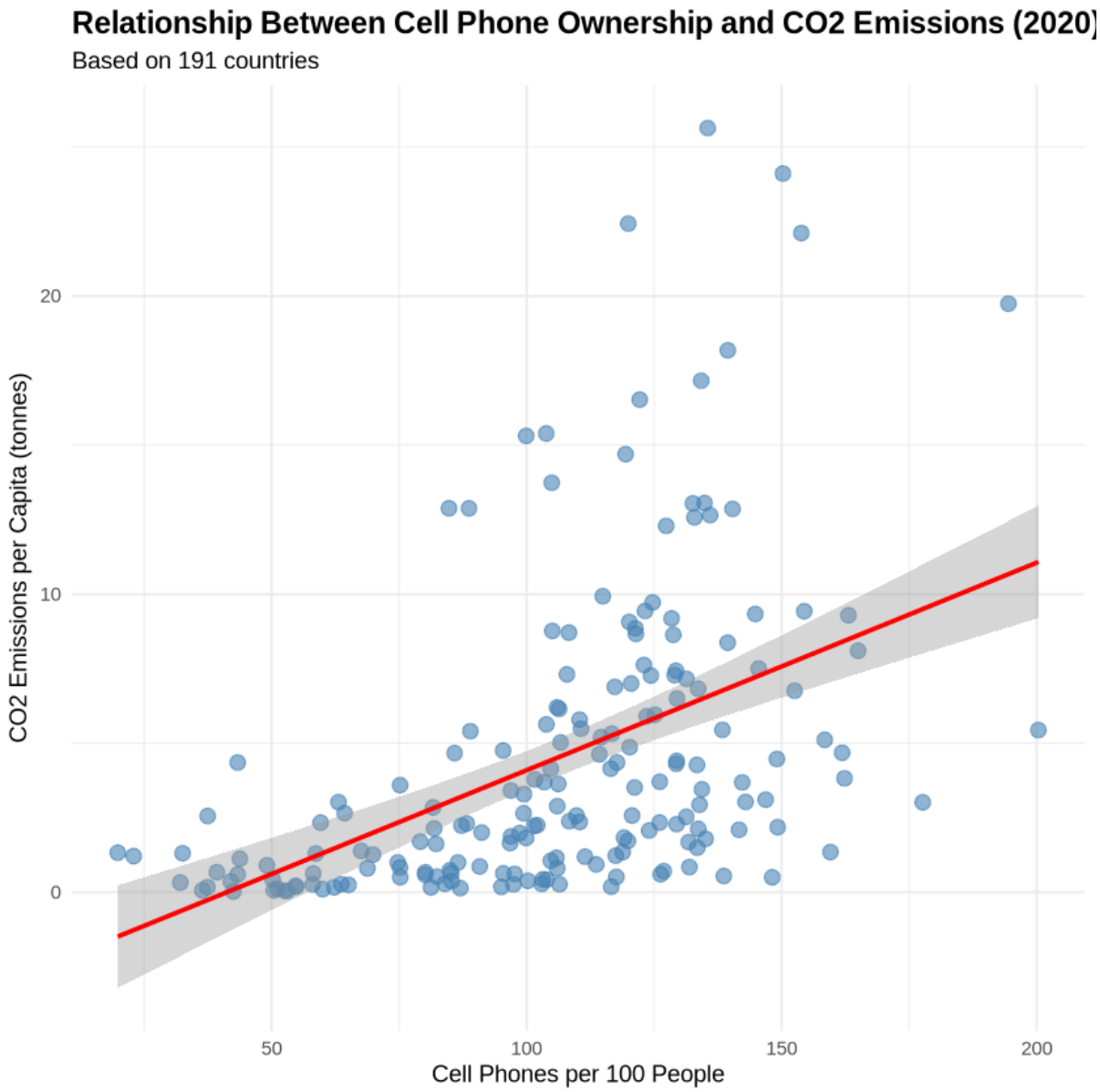
By Joshua Düring and Julius 22.10.2025



This map shows consumption-based CO2 emissions per capita in tonnes. Darker red indicates higher emissions, with countries like Qatar, UAE, and developed nations showing higher values.



This map displays cell phone penetration rates. Darker green indicates higher ownership rates, with many developed countries exceeding 100 phones per 100 people (due to multiple devices per person).



Interpretation by AI

The analysis reveals a moderate positive relationship between cell phone ownership and CO2 emissions per capita:

- Correlation coefficient: 0.471 - This indicates a moderate positive correlation. Countries with higher cell phone penetration tend to have higher CO2 emissions per capita.
- Statistical significance: The relationship is highly significant (p-value < 0.001), meaning this pattern is unlikely to occur by chance.
- R-squared: 0.222 - Cell phone ownership explains about 22% of the variation in CO2 emissions. This suggests that while there's a relationship, other factors (industrialization, energy sources, consumption patterns, etc.) play larger roles in determining emissions.

- Practical interpretation: For every additional 10 cell phones per 100 people, CO2 emissions increase by approximately 0.7 tonnes per capita on average.

This relationship likely reflects that both indicators are associated with economic development and modernization. Wealthier, more developed countries tend to have both higher technology adoption (cell phones) and higher consumption-based emissions. However, the moderate correlation suggests the relationship isn't deterministic - some countries achieve high technology penetration with relatively lower emissions.

Reflection by me

Julius feels very powerful. It’s quite intuitive and guides you hrough the process quite nicely. However as I’m not super experienced with coding I feel a bit at the Ais mercy. It feels like it just does what it thinks works best. For example my first try I had a dataset which did not have data until 2020 and it just picked a new year to subset. In principle this is fine but in my opinion it should have asked before doing so. Whith this experience it feels like the AI is not fully trustworthy and might make mistakes which you can easily overlook. The coding windows don’t help as I felt these clutter the browser and make following it quie hard. Overall as a first experience this was very educational and I’d like to incorporate more of it into my every day work.