Data Analytics Capstone MVP

Overview:

   Life expectancy refers to the average number of years of life a person who has attained a given age can expect to live. Life expectancy estimates from the National Center for Health Statistics provide a reliable snapshot of population health and mortality in countries around the world. But how has life expectancy changed over time and how does it differ between countries? What external factors affect life expectancy the most? And the age-old question, does one gender have a better life expectancy than the other?

Exploration & Questions:

   This capstone project seeks to understand the relationship between life expectancy and the effects of external factors including where an individual lives. This project seeks to answer:
   - What external factors have the most effect on life expectancy overall?
   - How does US life expectancy compare to other countries?
   - Which countries sustain both healthy lifestyles and growth in life expectancy?
   - How has life expectancy changed over time for total populations in different countries? For females? For males?

Datasets to Use:
   - https://www.kaggle.com/kumarajarshi/life-expectancy-who?ref=hackernoon.com
     - This dataset contains information on life expectancy for different countries with data on external factors and parameters. Data are only available for the time after 1900.
   - https://www.kaggle.com/deepcontractor/human-life-expectancy-around-the-world
     - This dataset contains information on life expectancy for different countries over overtime.
   - http://data.worldbank.org/indicator/SP.DYN.LE00.MA.IN
     - This dataset contains information on life expectancy for males in different countries over overtime since 1961.
   - http://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN
     - This dataset contains information on life expectancy for females in different countries over overtime since 1961.
   - http://data.worldbank.org/indicator/SP.DYN.LE00.IN
     - This dataset contains information on life expectancy for total population in different countries over overtime since 1961.

Charts & Visualizations:
   - Scatter plots and bubble charts to visualize difference in life expectancy by country.

- Sliding map to show change in life expectancy over time across the world.
- Heatmap to visualize correlations between life expectancy and external factors (alcohol use, BMI, etc.)
- Histograms to visualize distributions of life expectancy for external factors with most effect
- Regression model that can estimate the Life expectancy given all the dependent parameters used in EDA.