**The Economics of Happiness**

**Context:**

The World Happiness Report 2022 reveals a bright light in dark times. For example, the pandemic brought not only pain and suffering but also an increase in social support and benevolence. As we battle the ills of disease and war, it is essential to remember the universal desire for happiness and the capacity of individuals to rally to each other’s support in times of great need. This index is based on respondent ratings of their own lives, which the report also correlates with various (quality of) life factors. As of March 2022, Finland had been ranked the happiest country in the world five times in a row. Also, many African countries struggled with the happiness index.

The report is a publication of the Sustainable Development Solutions Network, a global initiative of the United Nations. The information primarily uses data from the Gallup World Poll. Each annual report is available to the public to download on the World Happiness Report website.

**Objectives:**

This study's goal is to determine which economic indicators contribute to The six life evaluation elements that the World Happiness Report rates countries on have no bearing on the overall score that is provided for each nation; instead, they are a mechanism for each government to explain the implications of the happiness score.

This study will determine, clarify, and illustrate how well a country's political system and populace mesh to assess its level of happiness.

This study also helps determine why African countries have struggled throughout these years and how some south Asian countries grew up the happiness index. We will also focus on countries with significant growth and loss on the happiness index.

**Data Frames:**

* World Happiness Report 2021.
* Democracy-dictatorship index.
* Population by country 2020.

**Algorithms:**

* Classification - to classify whether a country is happy or sad.
* Regression - to predict the happiness index on a scale of 1-10 to determine how happy a country is.
* AutoML - to compare and tune the predictions generated by regression and classification models.
* Algorithms include linear regression, logistic regression, decision trees, xgboost etc.
* SHAP

**Evaluation:**

* Identify the critical predictor variables and their relation with happiness.
* Compare various models using error metrics like MAE and RMSE.
* Model Interpretation.

**Model Interpretation:**

* Feature selection is based on different models and their relationship with the target variable, i.e., the Happiness index.
* Feature importance is considered to analyze the accuracy of the model.