World Happiness Report

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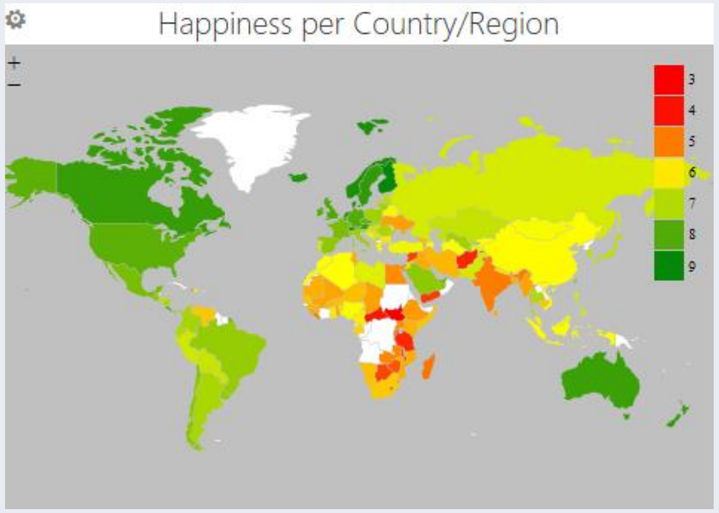
Can an algorithm help with your happiness?



Overview

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We tend to forget how important is to stay happy in this stressful life. There have been number of discussions on what are the reasons responsible for happiness, yet people fail to recognize and prioritize them. To solve this issue, we have worked on World Happiness Report, one of the Kaggle dataset to enumerate factors to calculate happiness score.

Motivation:

The reason for choosing this project work is to discover which important factors will lead us to a happy life. We performed various ML algorithms, to calculate and predict the happiness score, and compared which is the best among them. Hence, people around world can use the happiness score and focus on these parameters in order to achieve happiness.

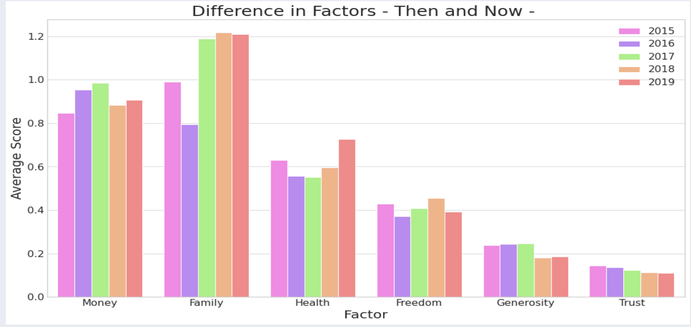
Dataset Description:

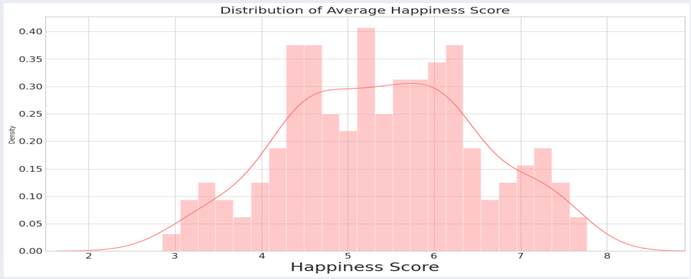
The dataset contains the data from five different years i.e. 2015, 2016, 2017, 2018, 2019. It has different columns which contribute to the happiness score which are GDP per capita, family, life expectancy, freedom, trust and corruption.

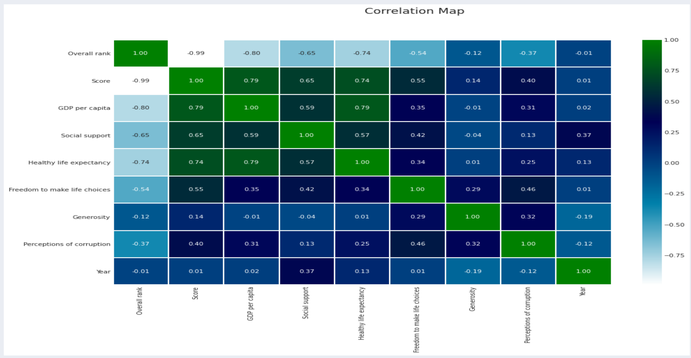
Data Pre-processing

- Merged datasets of different years and added a new column 'Year'
- Renamed column names to get consistency among the data
- Our dataset has single missing value, so we dropped that row.
- For model building, we split data into test and train.

Exploratory Data Analysis



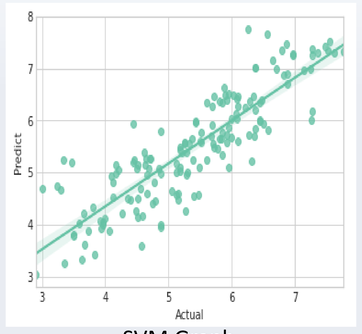




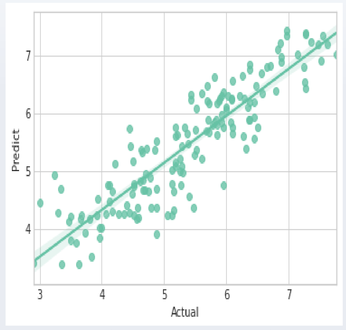
Methods

- Linear Regression
- Decision Tree
- Support Vector Machine
- Bayesian Ridge
- Ridge
- Gradient Boosting
- Random Forest

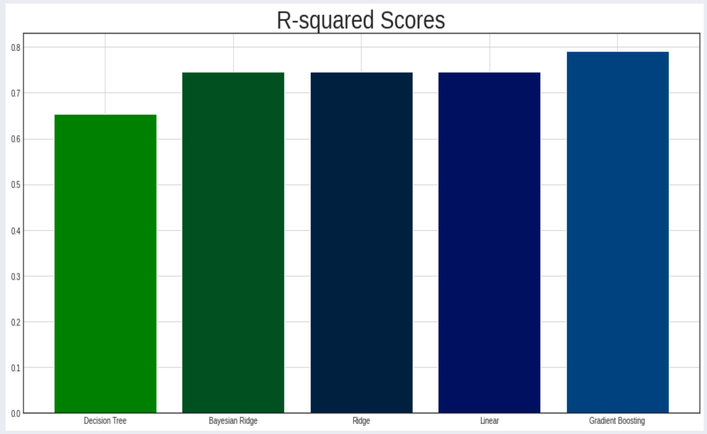
Results

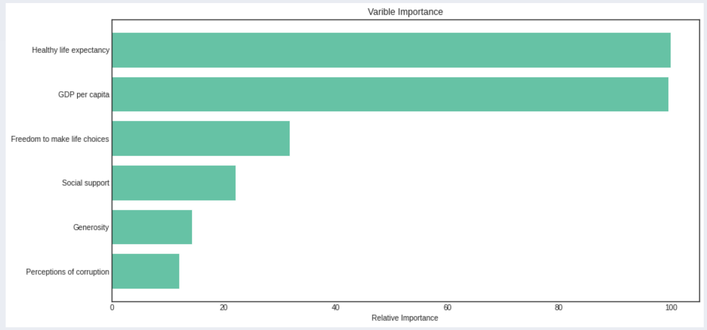


SVM Graph



Random Forest Graph





Future Scope

- Create data-sets with more context, comprehensive understanding
- Identify most important factors to happiness
- Narrow research to cities

Conclusion

Using data of five years, we trained different algorithms and identified the most successful ones. Discovered money and health being the most important attributes in our data and established a baseline to identify further needs for world happiness prediction.