

# IST 707: Data Analytics

## World Happiness Report Analytics

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# Topics

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- Data Problem
- About the Data
- Models
- Anticipated Results

# Data Problem

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- What factors contribute to making a countries' citizens happy?
- Can a country improve happiness by focusing on a certain factor?
- Can a country's future happiness ranking be predicted?

# About the Data

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## World Happiness Report

**Source:** Kaggle

(<https://www.kaggle.com/unsdsn/world-happiness>)

**Description:**

Data set ranking the happiness score of 155 countries around the world. Released annually resulting from Gallup polls.

**Key Fields:** (Indexes) GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity, and perceptions of corruption

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# About the Data (cont'd)

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## Supplemental Country Attribute Data

**Source:** World Bank

(<https://data.worldbank.org/indicator/>)

**Description:**

Various attributes by country to provide more insights on potential happiness influences.

**Key Fields:** GDP per capita (actual), unemployment, percent of population with access to electricity, population density, etc.

# Models

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- Association Rule Mining
- Clustering (K-Means and Hierarchical)
- Decision Trees
- Naïve Bayes
- SVM
- Text Mining
- Use all models to determine which contributing factors lead to higher happiness scores.

# Anticipated Results

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- Which factors contribute to a country's happiness
- What contributed to happiness rank change from one year to the next for a country or region
- Which country is likely to have biggest fall next year
- Clustering of countries from across regions