



# Happy Almana

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Aliya (⌚ SaliFishe)  
Marita (⌚ M4R1T4)  
Natalie (⌚ millnattily)

## INTRO



01

## EDA



02

## MODELS



03

## BONUS



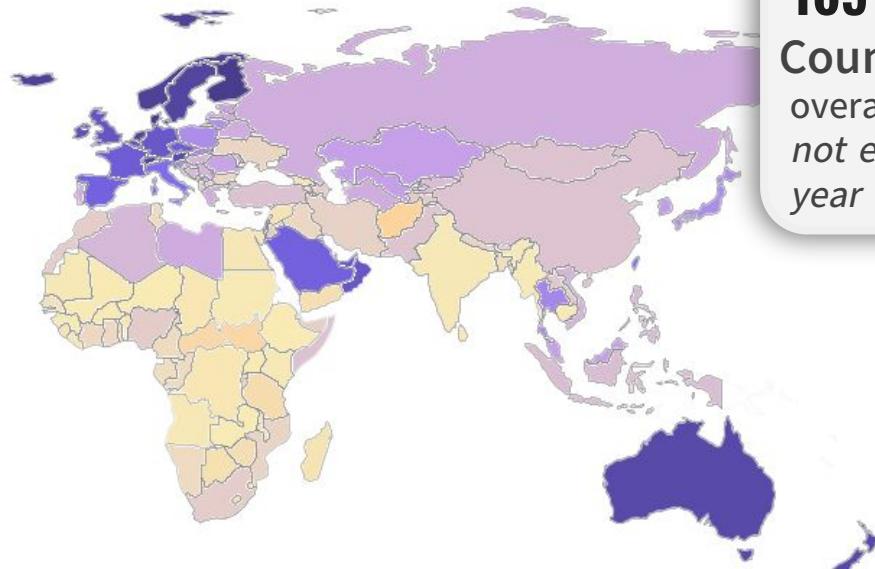
04

## OUTLOOK



05

# Intro: World Happiness Report



**165**  
Countries  
overall  
*not each  
year*

# Aiming & Framing: World Happiness Report

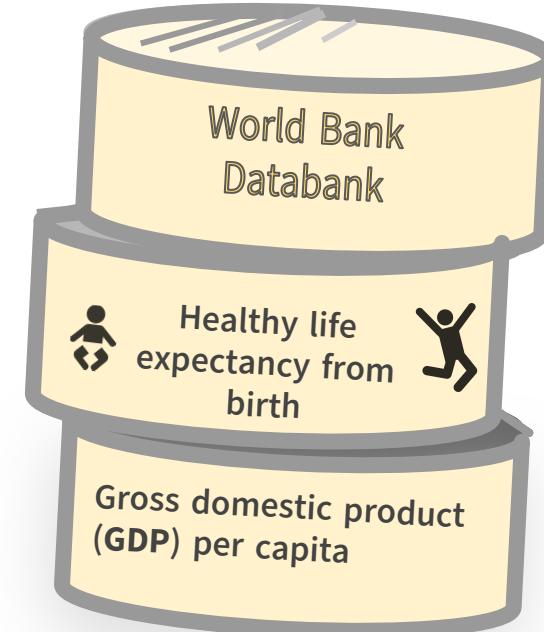
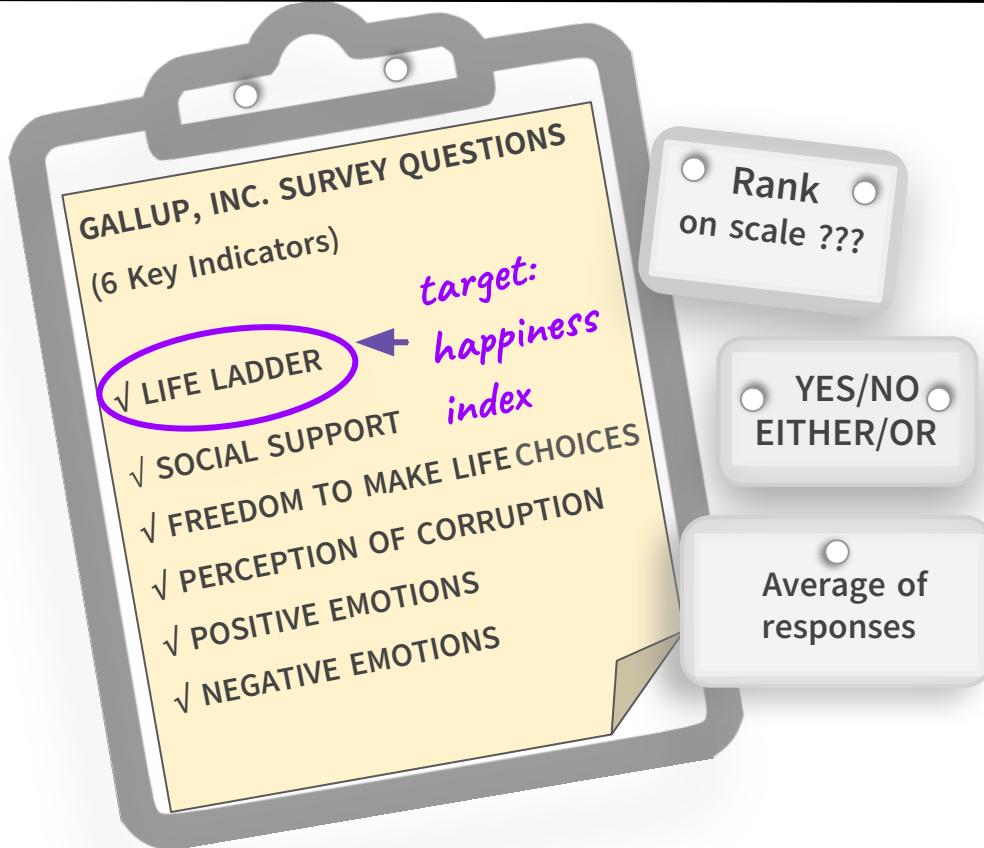


INDIVIDUAL





# Features: World Happiness Report



# Happiness Index a.k.a. “Life Ladder”



*Question Asked:*

Please imagine a ladder

with steps ↗↗

numbered from 0 at the bottom

to 10 at the top.



# Further Features Considered



- ✓ POPULATION DENSITY (Kaggle)
- ✓ AVERAGE YEARS OF SCHOOLING (UN Development Index)
- ✓ COST OF LIVING *in USD* (Numbeo)
- ✓ GINI INDEX *Wealth Distribution* (World Health Report)



- ✓ CRIME INDEX (Numbeo)
- ✓ HEALTH CARE INDEX (Numbeo)
- ✓ ENVIRONMENTAL POLLUTION INDEX (Numbeo)

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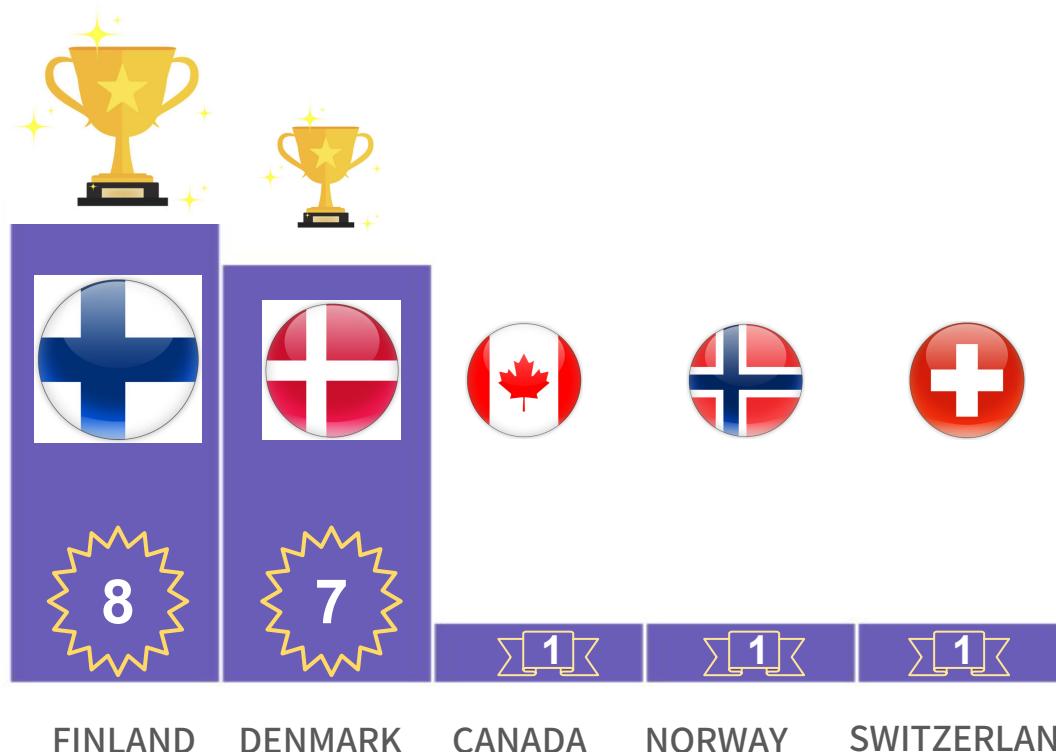
**04**

**OUTLOOK**

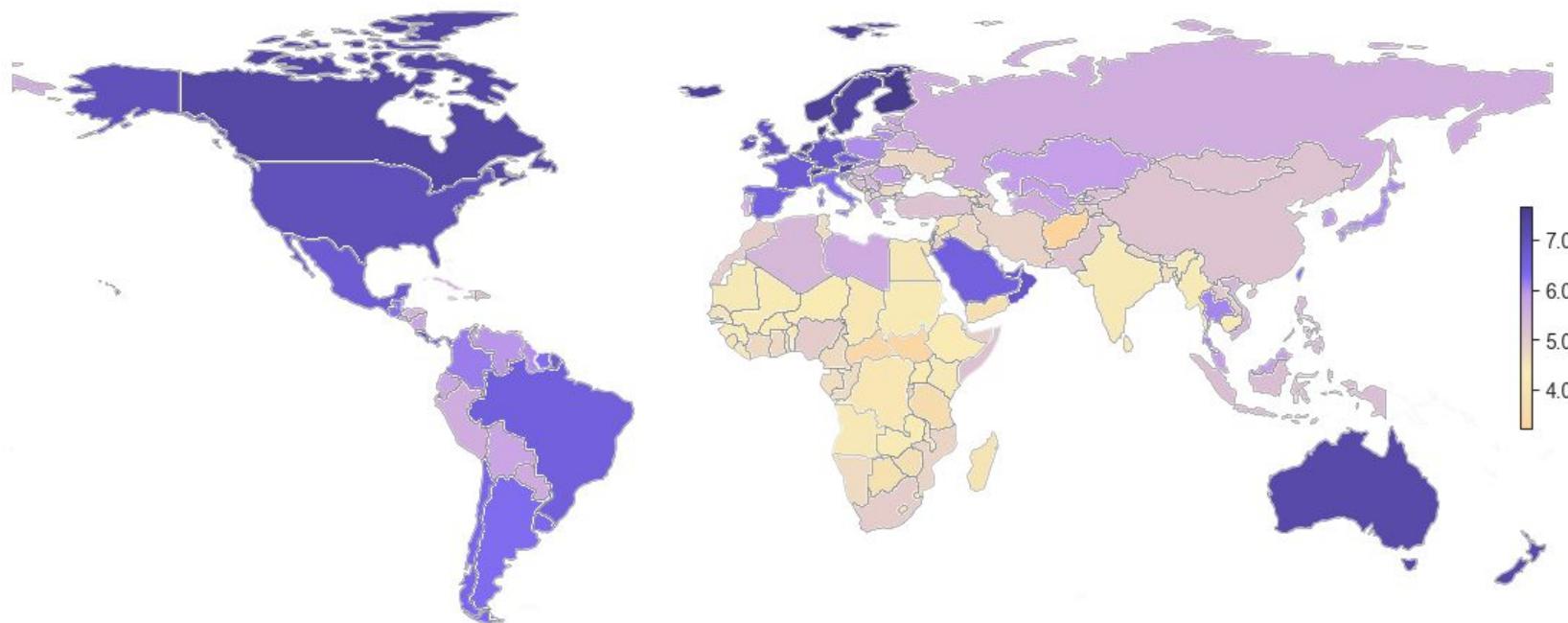


**05**

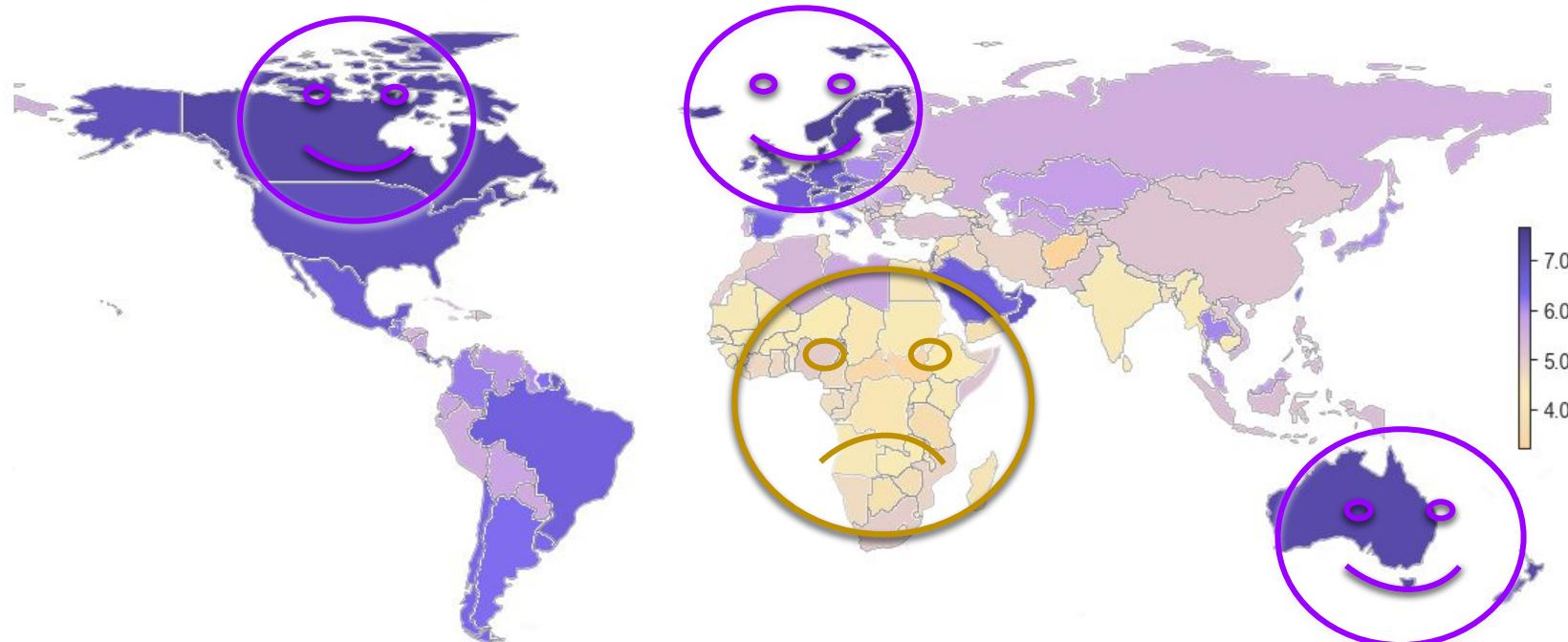
# Happiest Countries, 1st Place Winners (2005-2022)



# Average Level of Happiness (2005-2022)

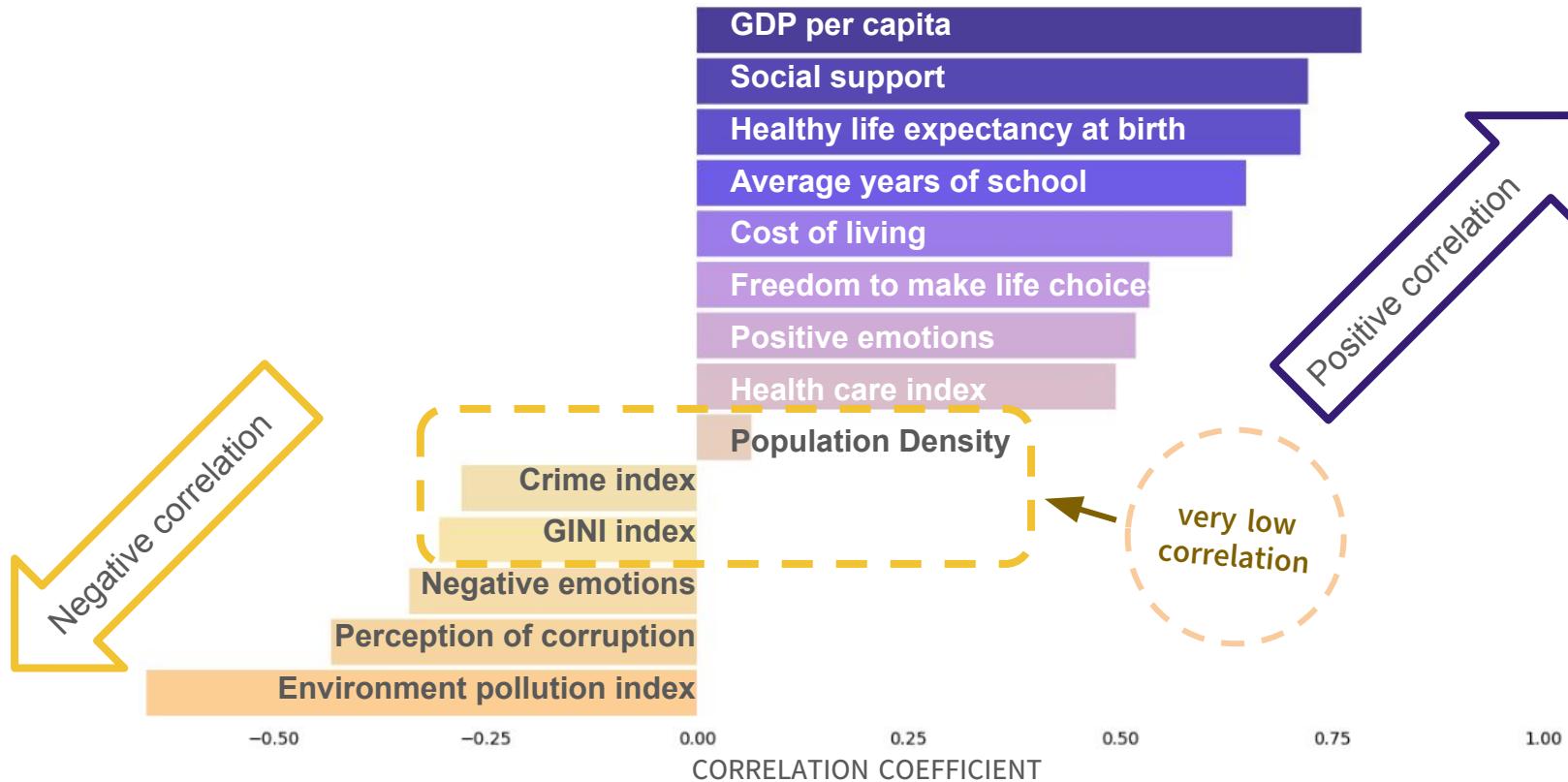


# Average Level of Happiness





# Correlation to Life Ladder



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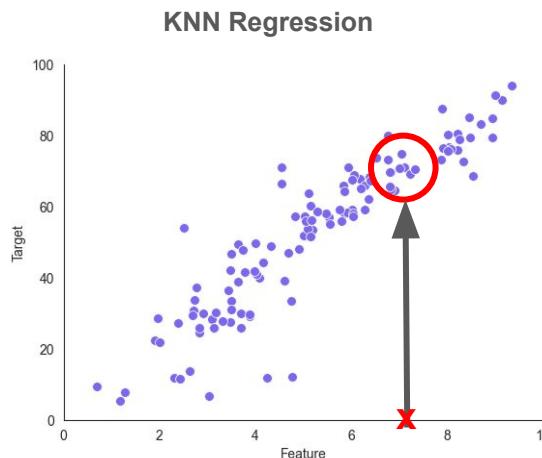




# Baseline Model

Variable: **GDP per Capita**

Algorithm: **K-Nearest-Neighbors (KNN)**



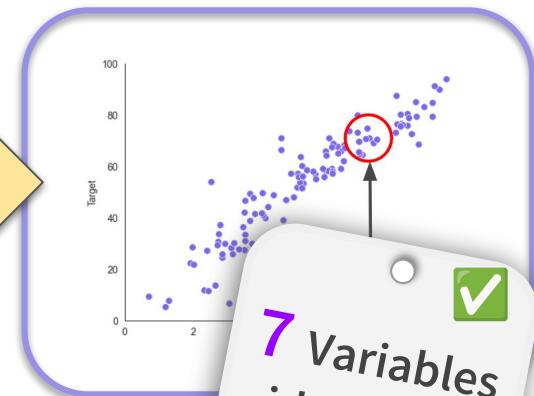
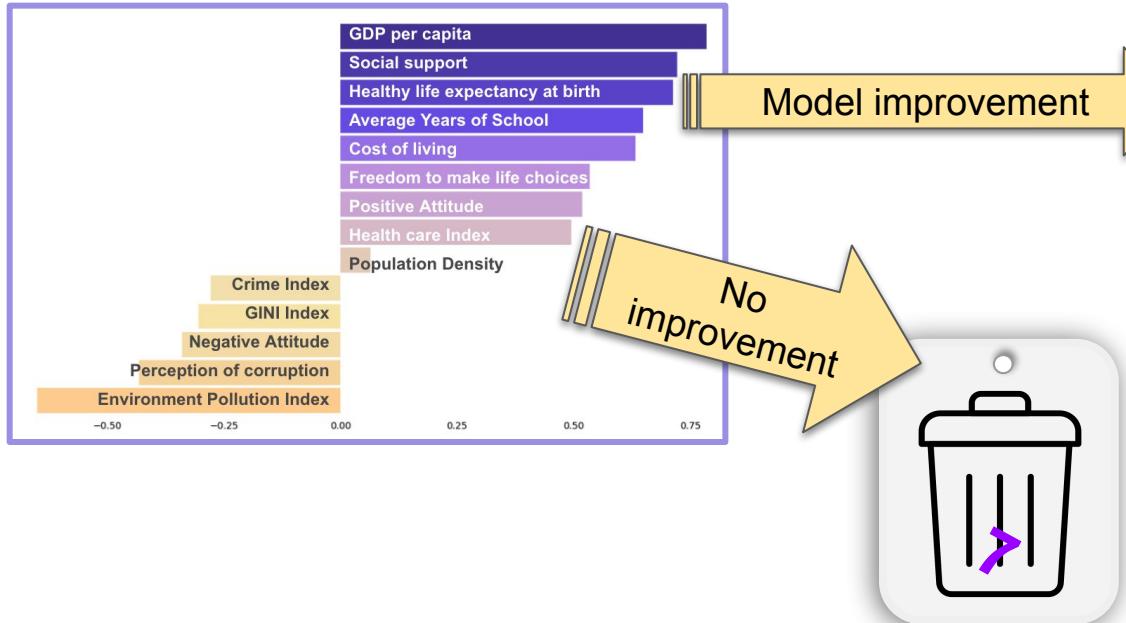
## Model Performance

Average Errors	Base-model	Best Model
Absolute	0.52	
Percentage	10.2%	



# Sort Out the Variables ...

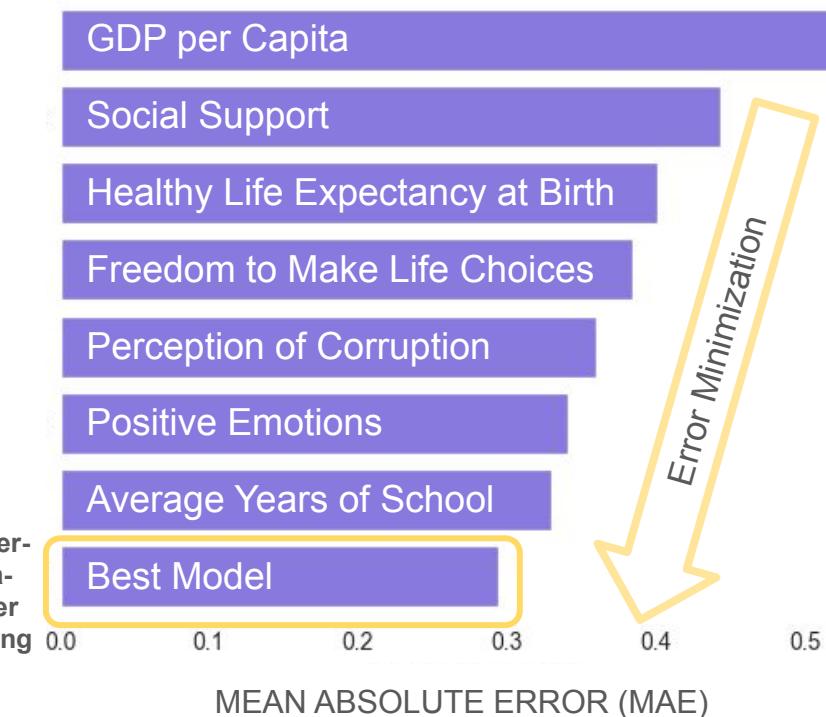
... separate the good from the bad





# Best Performance Model

Variables added one-by-one:



Algorithm: KNN

Model Performance:

Average Errors	Base-model	Best Model
Absolut	0.52	<b>0.29</b>
Percentage	10.2%	<b>5,9%</b>

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# And then, while we were working...

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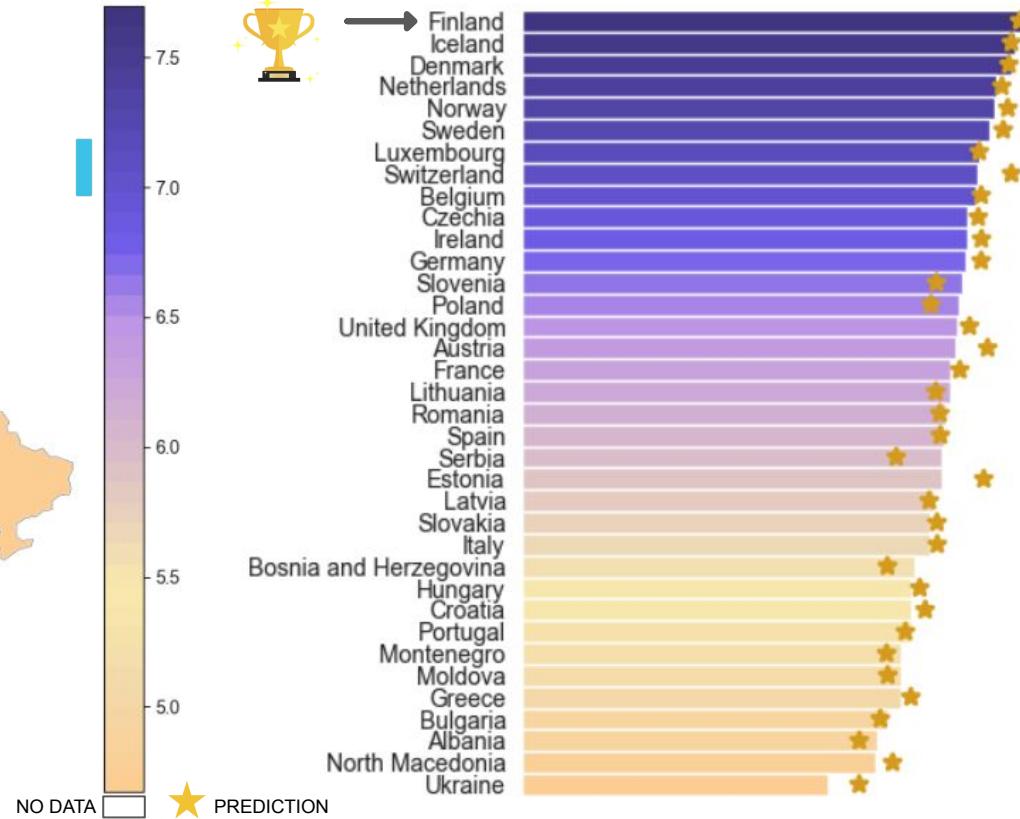
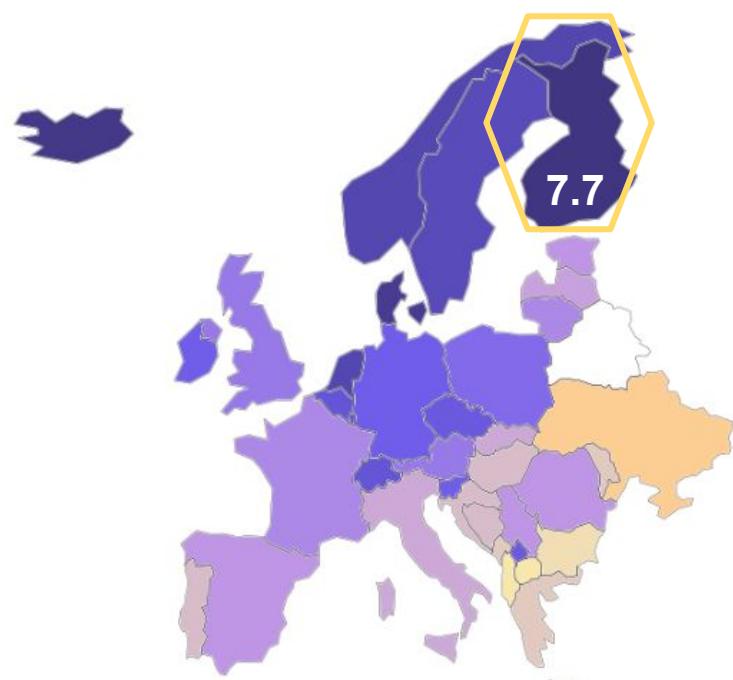
*...on World Happiness Day, March 20th, 2024*

*... the Happiness Report for 2023 was released*





# Happiness Index in Europe, 2023



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# Summary



## Europe's Happiest Countries

DENMARK 

FINLAND 

## Rest of the World's Happiest Countries

CANADA 

ISRAEL 

NEW ZEALAND 

## 7 Variables Enhancing Model Performance

GDP PER CAPITA

SOCIAL SUPPORT

HEALTHY LIFE EXPECTANCY AT  
BIRTH

FREEDOM TO MAKE LIFE CHOICES

PERCEPTION OF CORRUPTION

POSITIVE EMOTIONS

AVERAGE YEARS OF SCHOOL

# Outlook: Dive Deeper



- EXPAND INSIGHTS...

DENMARK, FINLAND, EUROPE, ... THE WEST ...

got it “right” 

BLUEPRINT... uncover more factors... better  
predictors...

- FURTHER UNDERSTANDING

BIAS ... western ideals, phrasing

HAPPINESS ... correct metric or not?



# THANKS FOR YOUR ATTENTION!

