

# **GARMIN PROJECT DEMO**

VACATION WORK PROGRAMME 2022



# PROJECT SCOPE

Garmin device data modelling for behavioral profiling using AI in real-time

# OBJECTIVE

Prove depression is a reality through digitalisation research done by Carmen Schiweck, PhD using Garmin health data

# ABOUT THE PROJECT



## MAIN GOAL

Create a depression tracker using AI that operates in real-time and incorporates behavioral profiling.

## SUB GOAL

Create a depression tracker using ML model and giving recommendations

## MVP

Prove that depression can be predicted by using health statistics and AI.



## JOURNEY

# KEY FACTORS OF THE PROJECT

## RESEARCH

### Health Data

Resting Heart Rate  
HRV

### Programming Language

Python  
Anaconda Jupyter Notebook

### ML Model

Decision Tree  
Entropy approach



### Interpretation

Quality of the data

# DATA COLLECTION PERIOD

Two weeks span  
Collect data in real-time

DATA

# INTEGRITY OF THE DATA

Personal health data from a  
trusted source



**GEORGE**

# APPROACH

Generated data based on research

Records

**685**





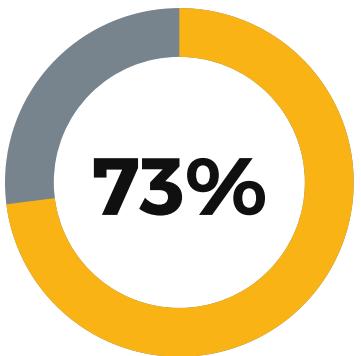
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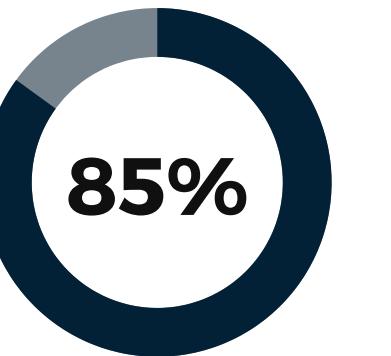
# DATA INTERPRETATION

## ML MODEL ANALYSIS

### Model Performance Ranges

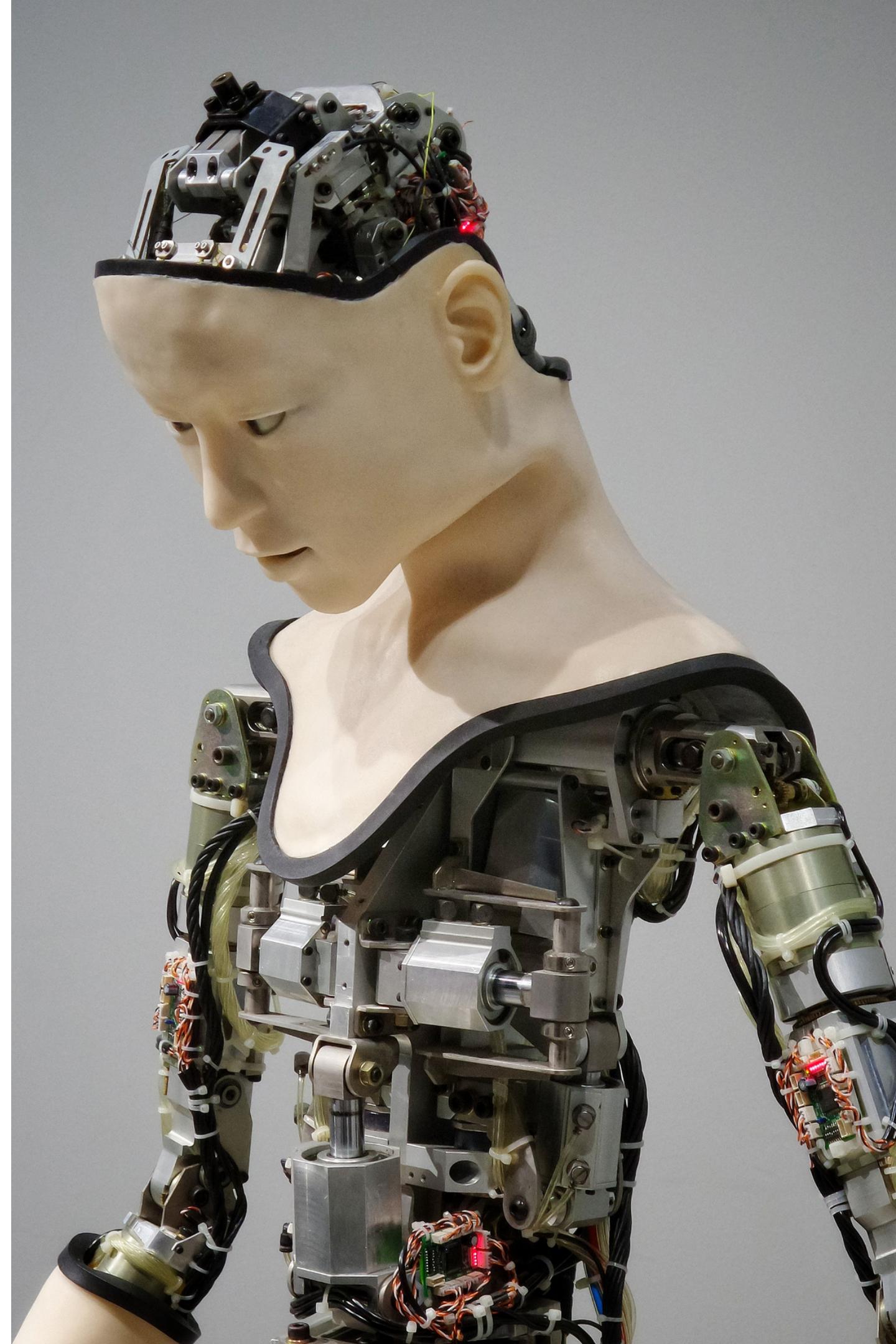


TO



### Factors that will increase preformance

- Amount of Data
- In-depth operations of decision tree
- Further data analysis



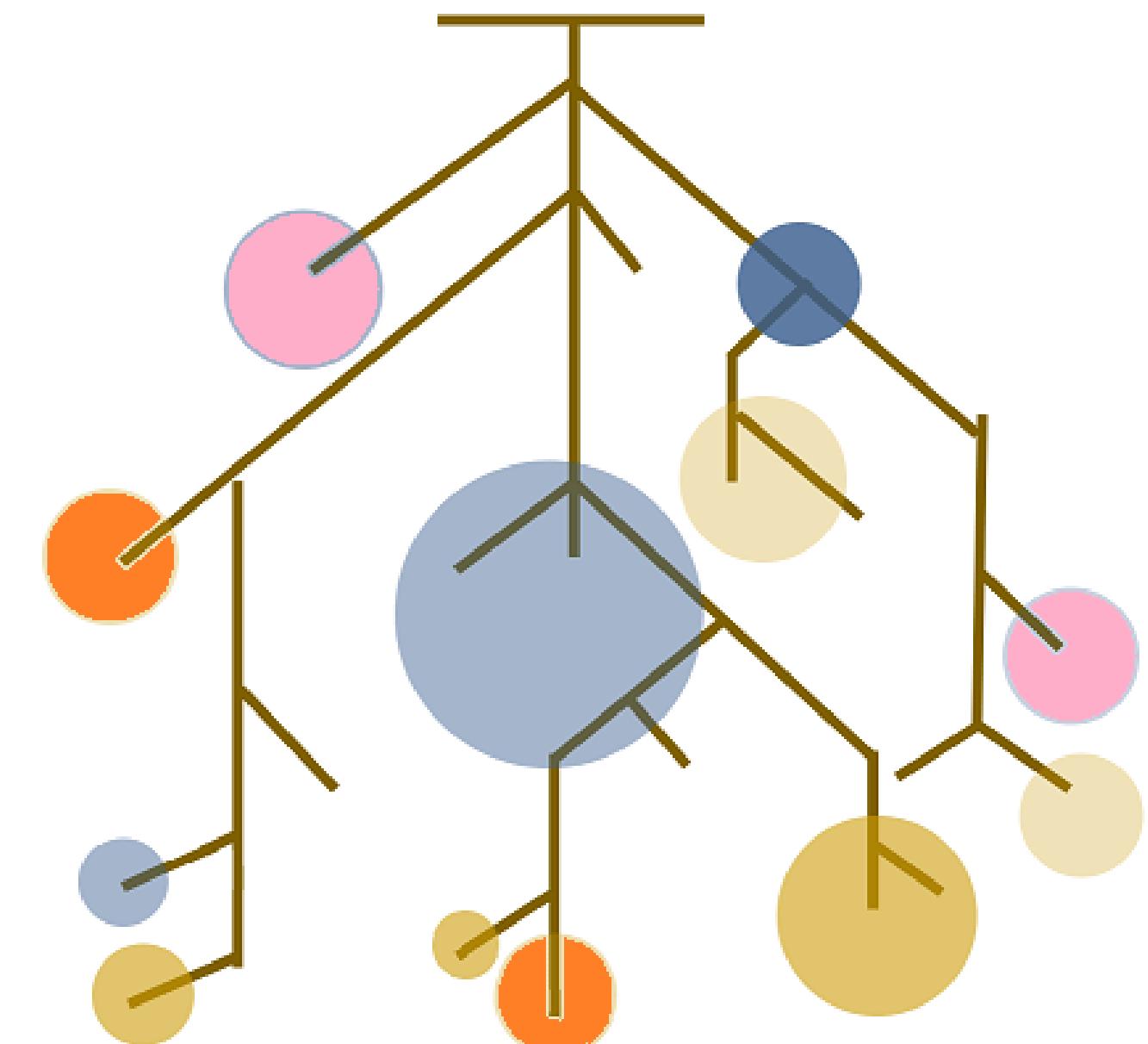
# DATA INTEGRITY ISSUES

- Classification (George)
- Data Collection
- Depression Symptoms

## DIFFERENT IMPLEMENTATIONS

- Random Forests
- Data collection based on location and activity
- Getting Discovery involved

## FUTURE DEVELOPMENT



# MENTAL HEALTH

- Anxiety Tracker
- Burnout Tracker

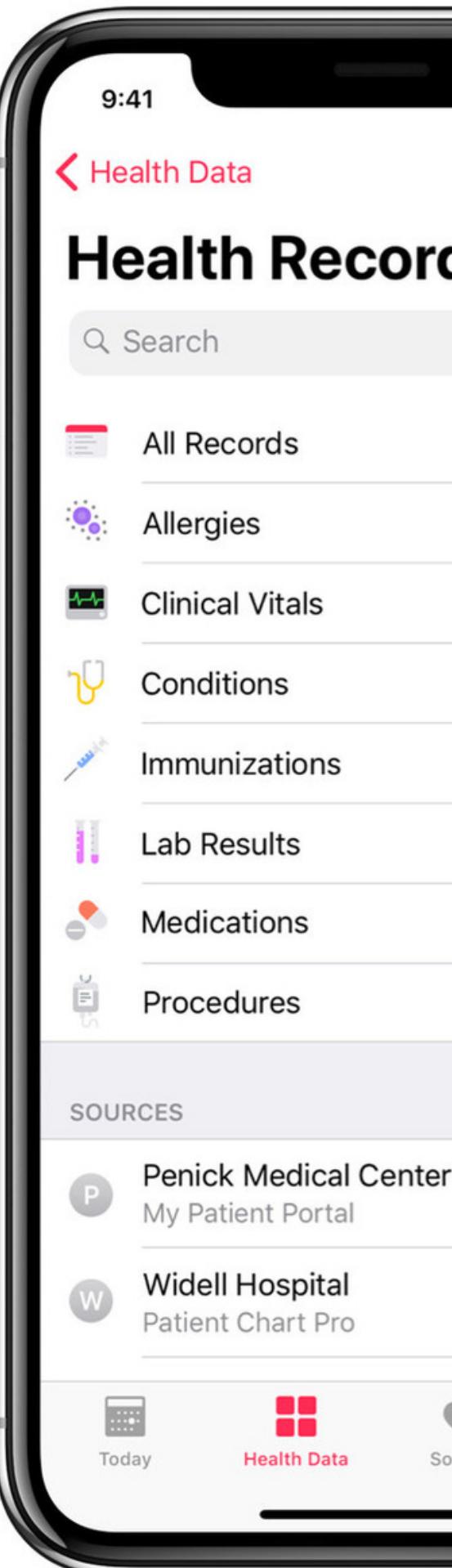
# ADDITIONAL FUNCTIONALITIES

## RECOMMENDATIONS

- Recommendation based on behavioural profile

## ADDITIONAL

- Health data sent to Psychiatrist
- Personal Rewards System





# CONCLUSION

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Feasibility?

Stepping stone for further development.

Step in the right direction

**TO BE CONTINUED**

KEY  
**QUESTION**



E T H I C A L I T Y ?

**THANK YOU**

ANY QUESTIONS?

