~~GUESS~~ PREDICT YOUR WEIGHT (LOSS)

Next Day Weight Predictions

Overview - Weight Loss Dilemna

- **Obesity -** 42% prevalence rate among adults (CDC, March 2020)

- **Dieting -** "Over 55% of participants had dieted at least six times..." - Mayo Clinic 2022 Survey (200,000 participants)

- **Resources -** Many options, apps, systems - weight Loss Industry valued at $142.58 billion

Solution? Predict Next Day Weight Loss

- Feature for calorie tracking apps to predict weight loss/gain the next day

- We created a model uses lifestyle analytics (diet, exercise, sleep) to forecast next day weight loss.

- Creates custom health numbers for users to meet manageable goals for daily lifestyle.

Data Source - My personal health data

With the apps, smartphone, and wearable technologies, the relevant data capture is easier than ever

➔ **Food**
   Recorded meals w/ Calorie counting apps

➔ **Metabolism**
   Smartwatch captured Active and Basal Calories burned
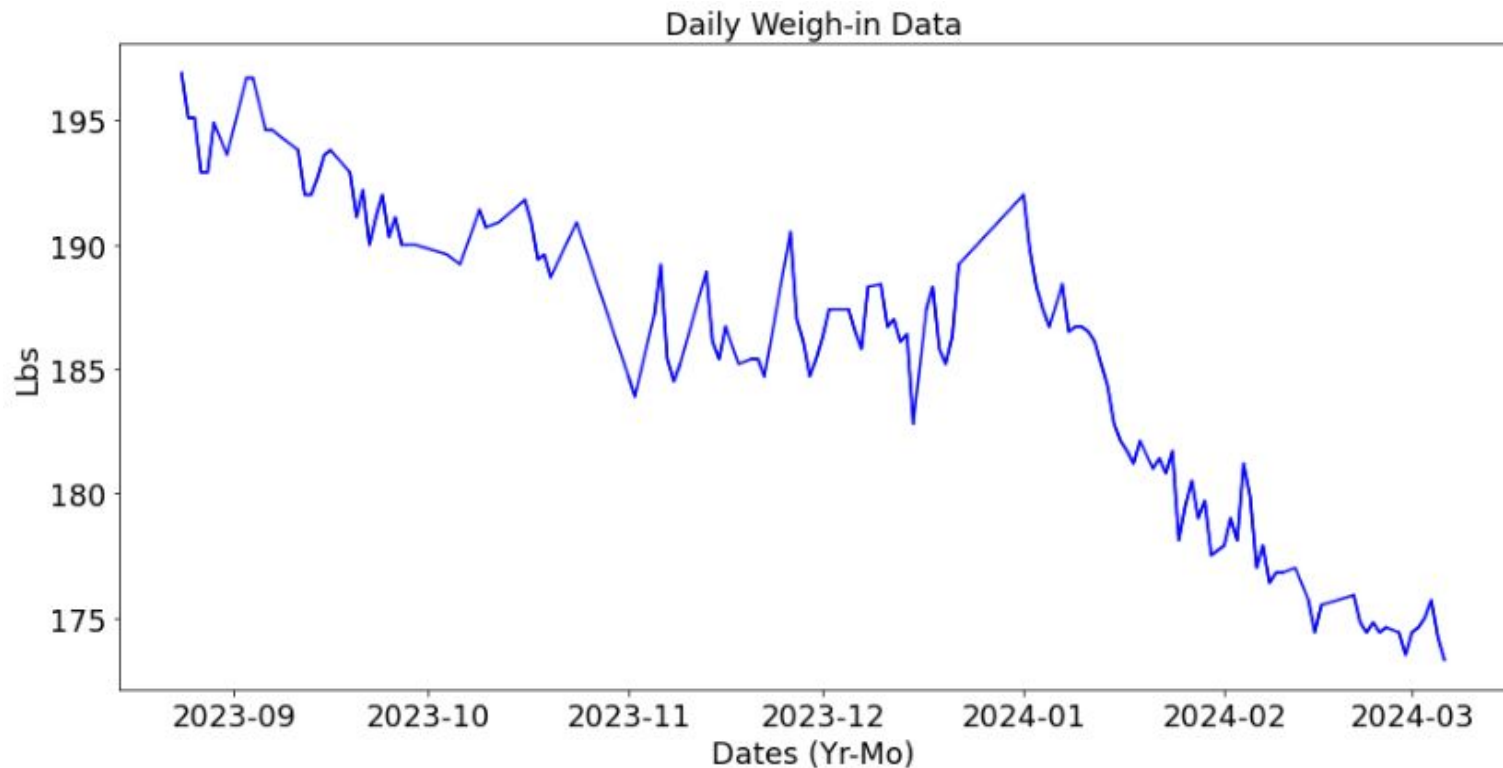
➔ **Sleep**
   Smartwatch REM, Core, DEEP, & Awake hours.

➔ **Weight**
   Recorded Daily Weigh-Ins.

Image: Harvard Health Publishing

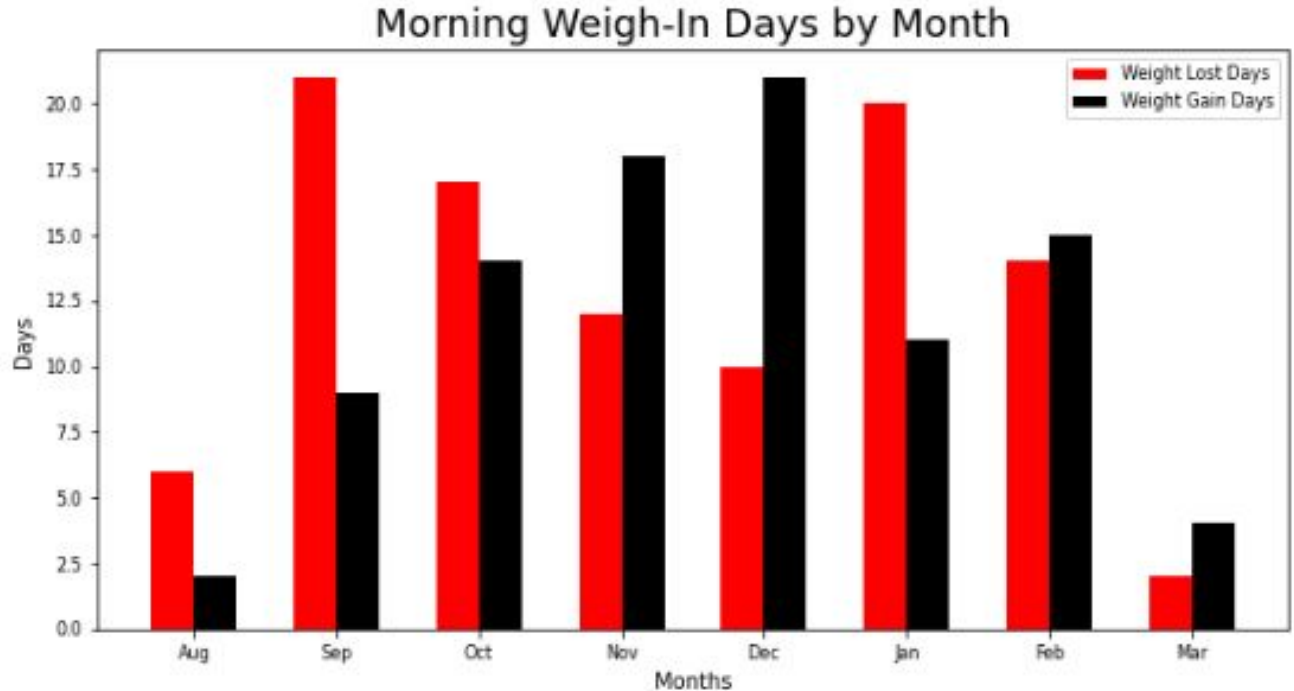# My Personal Journey - 20lbs in 6 months

Daily Weigh-in Data

Prediction Metric - Weight Loss/Gain Days

Weight Loss
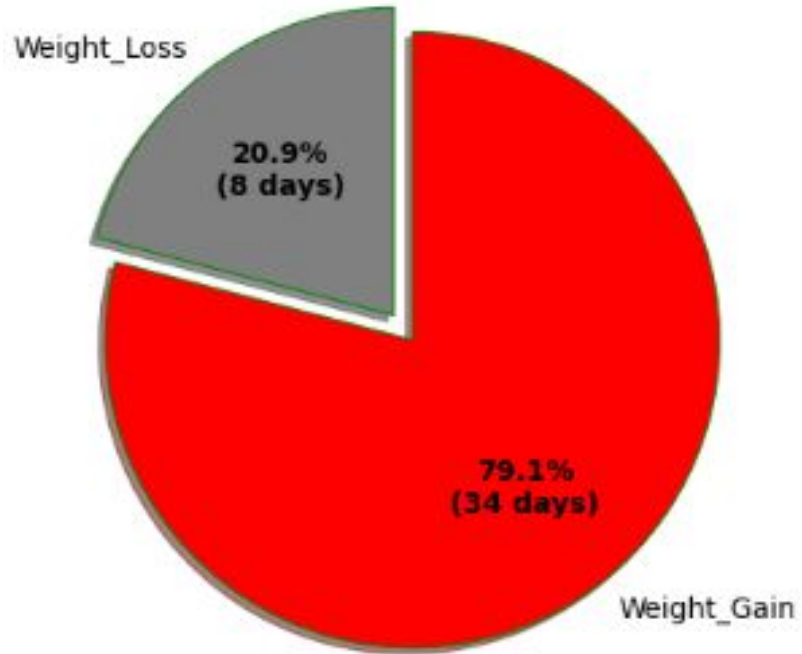
102 Days

Weight Gain

93 Days

Morning Weigh-In Days by Month

Largest Impact - Carbohydrate Number
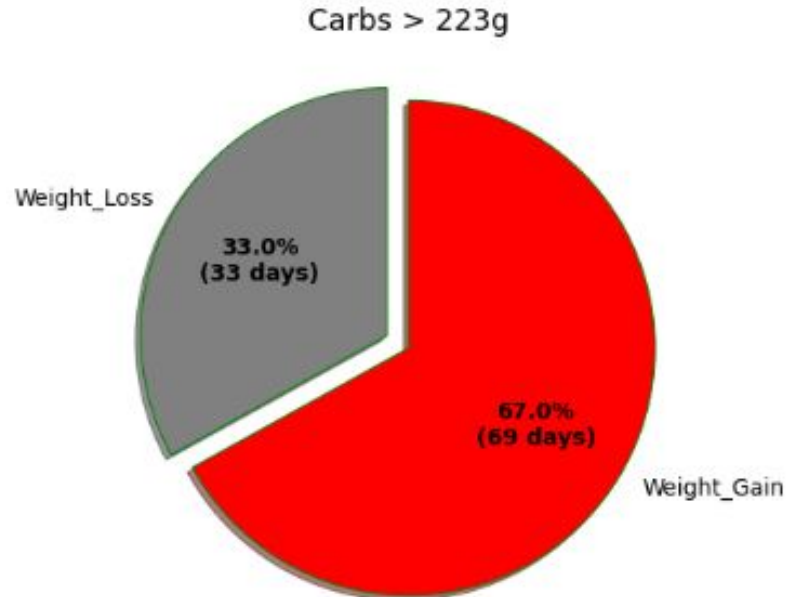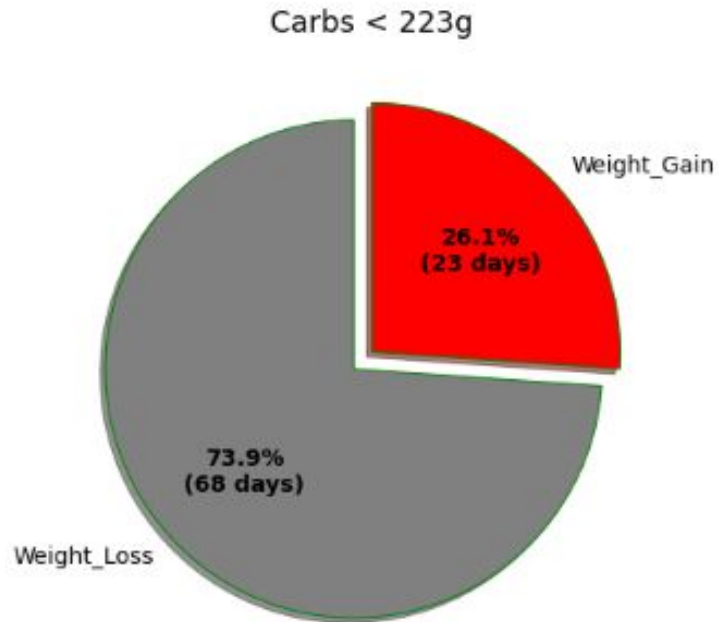
Low Sleep increases Weight Gain

- When *above* Carb Number, getting less sleep increased Weight Gain Days

- Sleep number is manageable (37% percentile)

Carbs > 223g, Sleep < 6.9 hrs

Weight_Loss

20.9%
(8 days)

79.1%
(34 days)

Weight_Gain

Fiber Helps Weight Loss

- When *below* Carb Number, getting ***at least*** 14.5g ensured days of Weight Loss

- Fiber number is manageable (16% percentile)

Carbs < 223g, Fiber > 14.75g

Weight_Gain

18.8%
(12 days)

81.2%
(55 days)

Weight_Loss
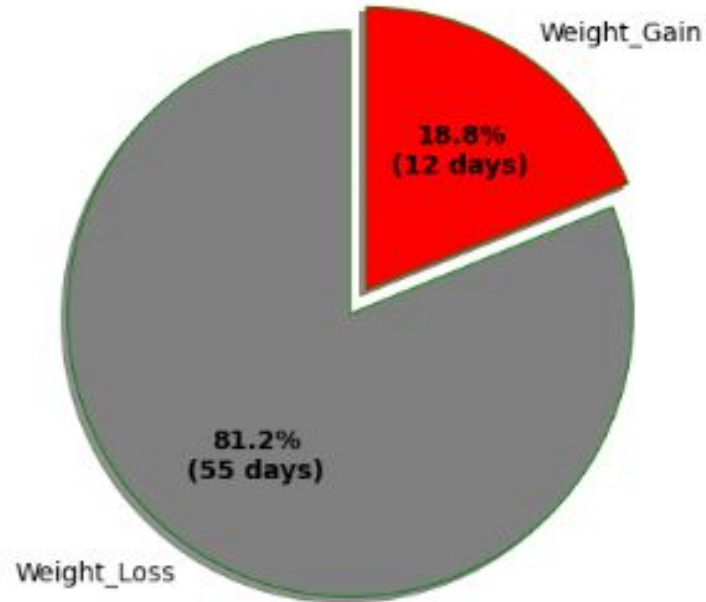
Recommended User Features

- **CARB NUMBER** - Utilize calorie tracking to find CARB number and prompt users when they approach it

- **SLEEP** - If above carb number prompts reminded the user to get sleep

- **FIBER** - Reminder toward the end of the day to increase fiber (and what foods will do that).
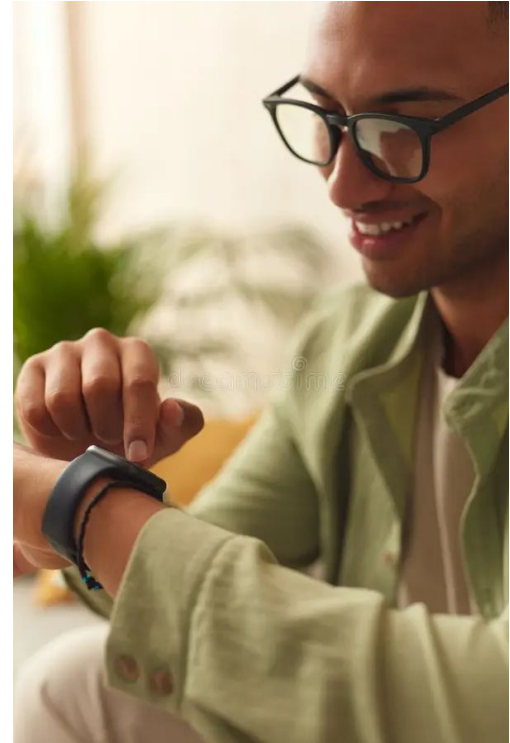
Next Steps

- More (improved) data to refine model

- Deploy website where users can monitor the data

- Try calorie counting for a week, and try predicting weight loss!

Questions:

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