

~~GUESS~~ PREDICT YOUR WEIGHT (LOSS)

Next Day Weight Predictions

Overview - Weight Loss Dilemma

- **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.

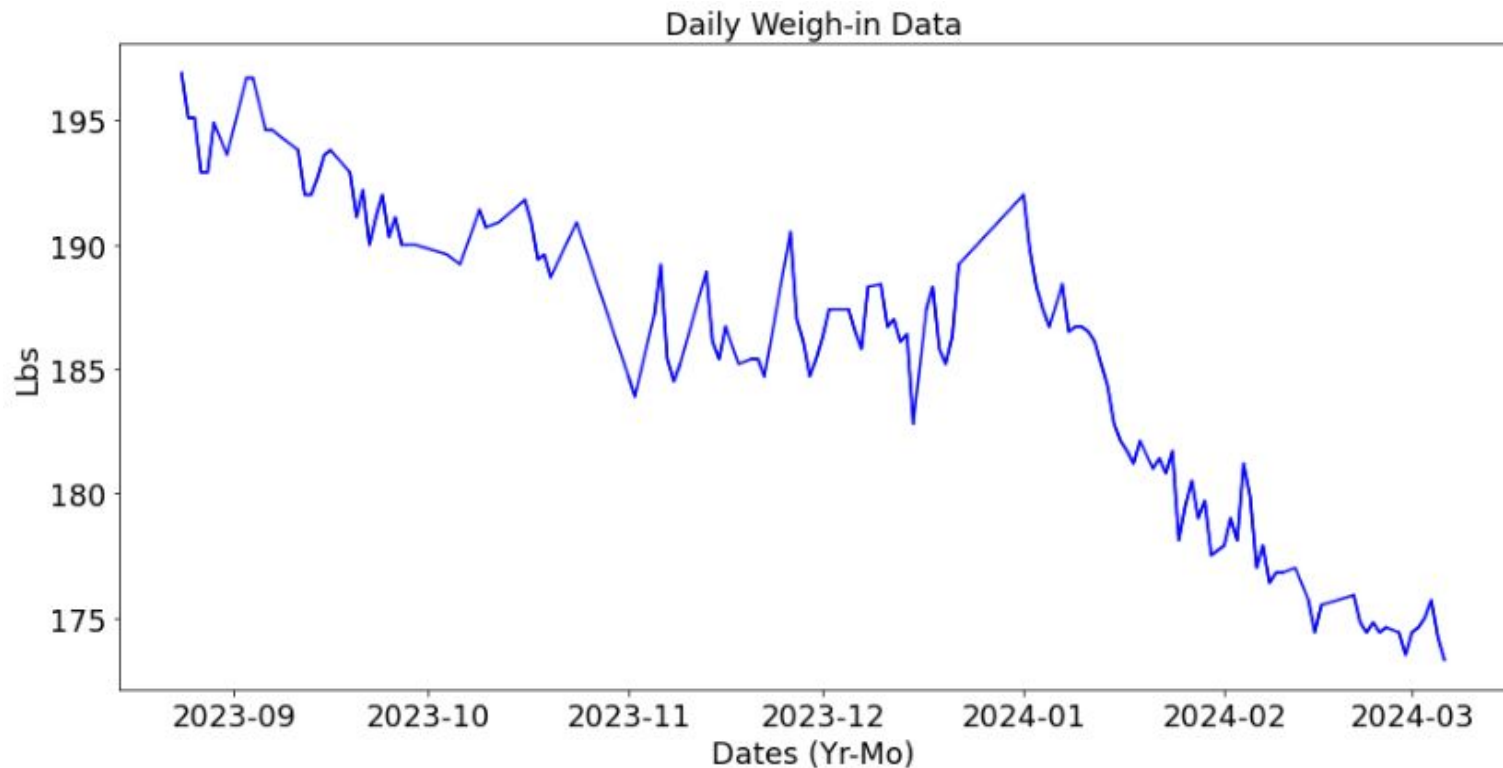
→ Weight

Recorded Daily Weigh-Ins.



Image: Harvard Health Publishing

My Personal Journey - 20lbs in 6 months



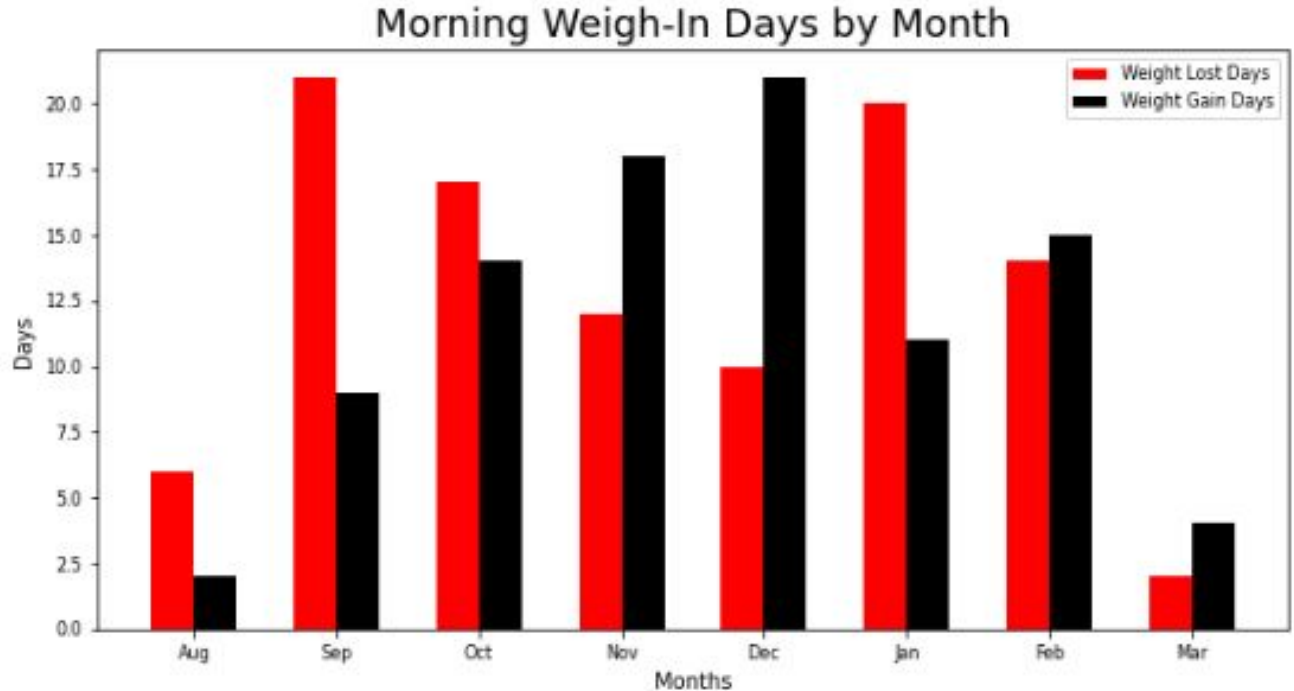
Prediction Metric - Weight Loss/Gain Days

Weight Loss

102 Days

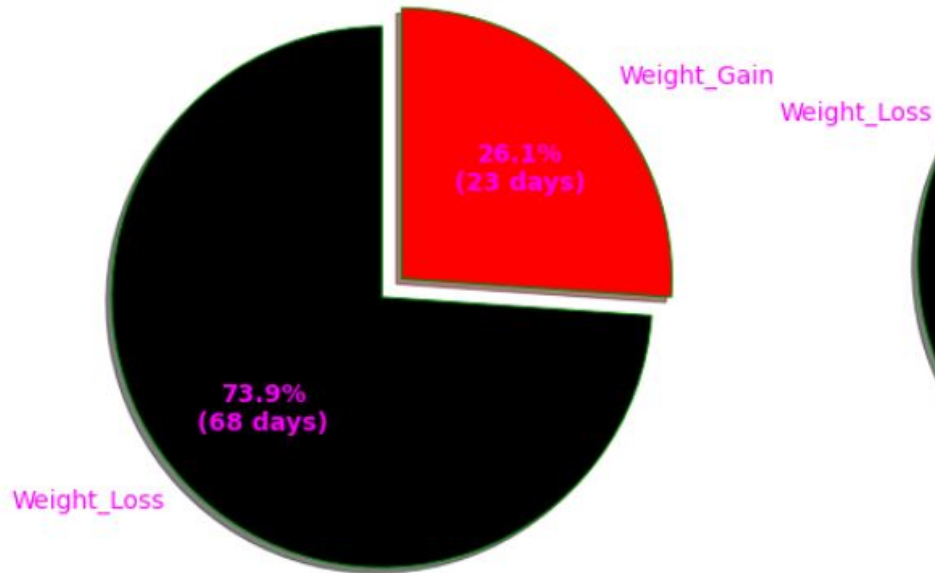
Weight Gain

93 Days

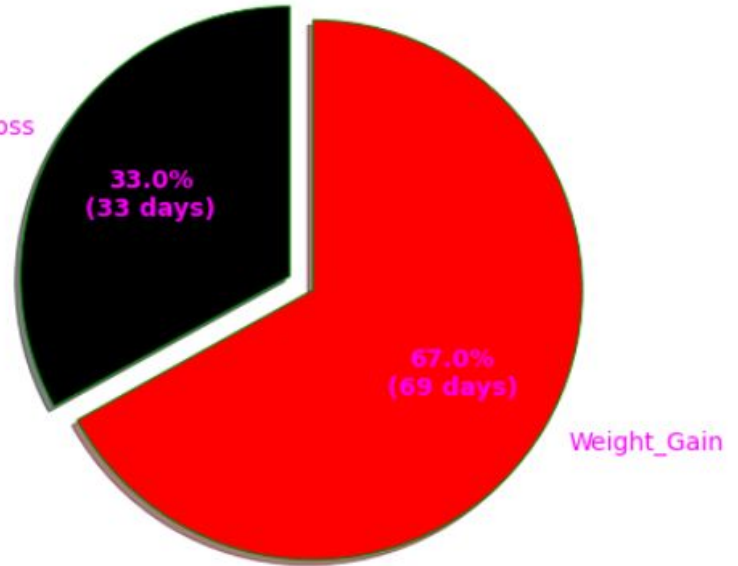


Largest Impact - Carbohydrate Number

Carbs < 221g



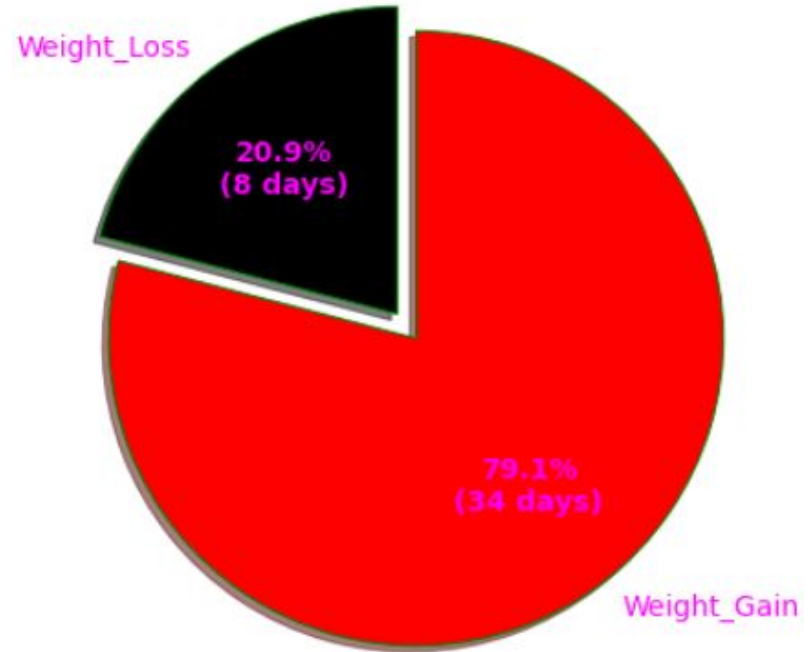
Carbs > 221g



Low Sleep increases Weight Gain

Carbs > 221g, Sleep < 6.9 hrs

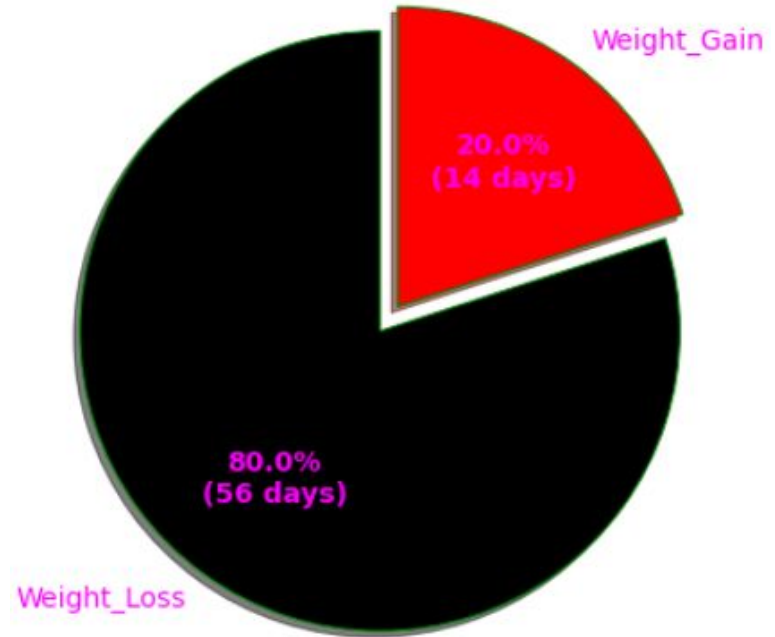
- When *above* Carb Number, getting less sleep increased Weight Gain Days
- Sleep number is manageable (37% percentile)



Fiber Helps Weight Loss

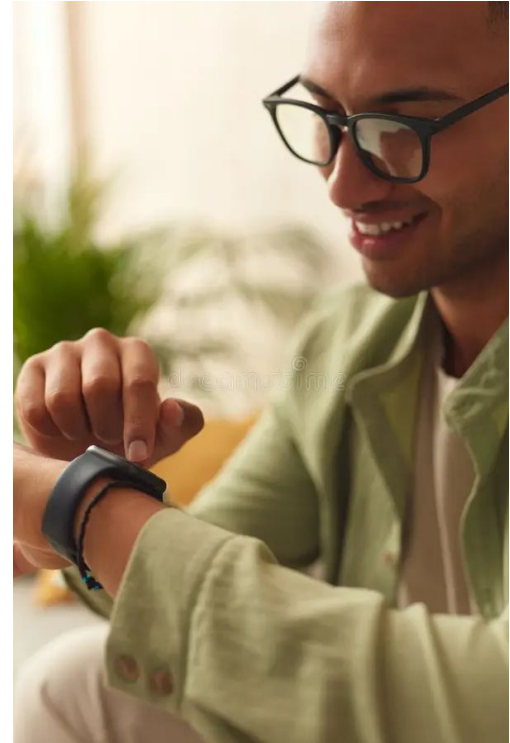
Carbs < 221g, Fiber > 14.5g

- When *below* Carb Number, getting ***at least*** 14.5g ensured days of Weight Loss
- Fiber number is manageable (16% percentile)



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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