Mental Health Project

Mood Prediction Based on Various Health Factors

Problem:

I have been trying to treat my mental illness for years. Doctors always ask how my symptoms are improving/worsening with treatment. I never know how to answer because there are so many factors, and the outcome is hard to quantify. Inspired by Mark Watney I have decided to “science the shit” out of the problem. Thank you Andy Weir

Initial thoughts:

* Logistic Regression: multi-class classification with 5 outcomes
  + Softmax regression?
  + 1 = worst mood, 5 = best mood
* Mood data from Finch
  + Feeling ( 1 = worst mood, 5 = best mood )
  + Motivation ( 1 = lowest motivation for the day, 5 = highest motivation for the day)
  + Satisfaction ( 1 = lowest satisfaction for the day, 5 = highest satisfaction for the day)
  + I suspect Feeling will be the most useful metric but the other two could be interesting to explore without much addition effort since all three categories are similar 5 outcomes
* Journal / Tag data from Finch
  + Unfortunately this data may not contain date information would make it a lot harder to join with other variables
  + Possibly with some effort I could join the journal entries in Google Keep and Finch into a useful format
* I will collect data from other sources and ideally join with the Finch mood data on date or even datetime
* Possible contributing / independent variables:
  + Number of steps
  + Heart rate
  + Medication ( yes / no, new column for each med )
  + Water intake
  + Weight
  + Diet ? Meals eaten that day?
  + Sleep score
  + Period start and end dates?
* Design flaws / issues:
  + As the test subject and the statistician, I need to blind myself to the data as much as possible to avoid bias and influencing the results
  + Gaps in data as mental health makes it difficult to stay consistent
  + Trends and long term nature of mental health treatment makes it hard to contribute day to day factors to long term improvement?
  + Mood can fluctuate quickly