

Capstone 2 Report

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Explain The Problem

Obesity has seen a massive surge in the last few decades and affected many people as the modern world affects the human diet. There has been a lot of research done on this, and a lot of data that has been captured. As this is an interest of mine, I wanted to tackle it head on as part of my capstone in order to continue learning about it and hopefully one day be in a position to help people that have struggled with it. I found a dataset related to a total nutrition and health assessment that was taken by the CDC for the 2013-2014 timeframe. There was an incredible amount of fascinating data available, but I drastically filtered the data down as I was most interested in macronutrients and their effect on different metrics such as BMI and weight.

My Approach

In order to cater to the idea that this would benefit an interested party, I created a fictitious persona by the name of David Greene to one of the obese subjects in the data. I looked at ways that he could eventually get his BMI into a healthy range using the machine learning model and manipulating/tinkering with some of the features related to the client.

My Findings

As this is something that I have studied pretty frequently, there was a lot that I knew, but there were some preconceived ideas that I had as well that led me to some pretty interesting insights. First, I was surprised by just how much variability goes into things such as health and physiology. Because of that, I am grateful that I was able to learn about machine learning models. This way I can rely on what computers are great at rather than having to introduce some aspects of human error (not to mention the additional time that it would have taken). My findings were consistent with what I hoped to find in that weight is highly correlated with chronic behaviors (particularly high sugar intake). By drastically altering Davids food and diet choices,

the model determined that he would be able to reach a healthy weight. It was amazing to see this in the data and actually be able to work on something like this.

Ideas for Further Research

Something that I ran into early in the process were features related to the subjects intake of macronutrients. I was so excited to see this, but diving into that rabbit hole would have been entirely outside of the scope of what I was hoping to accomplish with this project. I would be very interested in doing some exploratory data analysis related to those features though!

3 Recommendations

Finally, the recommendations that I would give to David (as well as anyone else desperately trying to lose weight) relate to the macronutrients as well as the bodys response to them.

- 1 - Drastically cut down sugar if not all carbohydrates - induces insulin which makes it impossible to lose weight
- 2 - don't be afraid of more dietary fat intake! - gives you more satiety so you don't feel hungry!
- 3 - Cut down on calories/macronutrients in general. Eat consciously/intermittently.

If people like David follow this general advice, in addition to other things like regular exercise, spending time with loved ones, cutting stress out, laughing, sleeping, etc. they will see fantastic results and lead a happier, healthier life!