

# CSC 5825 Fall 2018 Term Project

Students enrolled in CSC 5825 are required to complete a research project, i.e., obesity risk factor analysis. A written report on the project is expected at the end of the semester.

## Amount of work

Since the weight of term project is 20%, the amount of work I would expect is roughly equivalent to that of 2 regular homework assignments.

## Problem Statement

Nearly 38% of adults in the United States are obese, with rates rising stably and significantly over the past decade. Obesity places adults at risk for developing a plethora of serious medical comorbidities including cardiovascular disease, cancer and premature death. Identifying the salient risks for obesity and variance among subpopulations is imperative to optimize prevention efforts and treatment.

Risk factor analysis is a common methodology to identify, rank and understand the underlying obesity risk factors and to inform prevention and treatment of preventable physical and mental health conditions more broadly. Risk factor analysis examines the complicated relation between output and input variables, where they are the outcome and features, respectively.

## Dataset

Behavioral Risk Factor Surveillance System (BRFSS) dataset is phone-based survey data collected from all the states/districts in the U.S. and filed by Centers for Disease Control and Prevention (CDC). This dataset is state-specific and the participants are all adults. Please use the 2017 BRFSS dataset that can be downloaded at:

[https://www.cdc.gov/brfss/annual\\_data/annual\\_2017.html](https://www.cdc.gov/brfss/annual_data/annual_2017.html)

## Timeline

**Nov 28 (progress report)** - This progress report should describe method(s) that you will be using, data pre-processing/processing and preliminary results including source code. **(50 points)**

**Dec. 12 (final report)** - Your final report should cover introduction, methods, experiments, results and conclusion. I expect to see fully developed results for your projects and a clear conclusion. You will need to submit your source code and the final written report following the format requirement below. **(150 points)**

**Format** (you will get **points off** if you don't follow format requirement. You may also get points off for missing the required sections in your report):

1. Use IEEE template either in MS WORD A4 format or LaTeX format. Please use the font size 11. Please submit your report in **PDF format**.

[http://www.ieee.org/conferences\\_events/conferences/publishing/templates.html](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)

2. Page limit: 2 full pages (**excluding** bibliography and source code), no longer, no shorter. Please include no more than 2 figures and 1 table.

3. Organize your report according to the following sections:

Section 1. Background/Introduction

Section 2. Methods

Section 3. Experiment, Results and Discussion

Section 4. Conclusion

Bibliography