Project Proposal [EAS 509 S22]

A Quantitative Study for The Prediction of Anxiety, Stress and Depression

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Abbreviations –
ASD Score – Anxiety, Stress, Depression Score

Motivation –
The underlying aim of this project is to create a dynamic R Shiny application that would predict the likelihood of a person having the symptoms of depression, anxiety, or stress (ASD Score) by them answering a set of questions.

Approaches –
1. Normalizing the ASD score (1 being ☹ , 0 being ☺)
2. This would be an unsupervised learning model so we would probably follow along the lines of clustering samples with their relative answers to questions and flag them from a given range of ASD score between (0 to 1).
3. Have a set of 10 questions for everyone to answer, (7 behavioral questions and 3 background questions like age, sex, etc.). This step is the most important as we get the demographics as well as the personality of a person if they answer the questions in a true manner.
4. This is thinking outside the box, but we have foreseen a case where we send out a google form (a week prior to the presentation) to the entire EAS 509 class with a set of 10 questions and requesting them to answer it; so, we get a class answers on the questions and predict the ASD score and present the same visualization on the presentation day.
5. Present the model via R Shiny and answer 10 questions real time and let the model predict the ASD score.
6. Features would be the questions (1-10) on how many people have picked either of the 10 questions and train the model on those questions.

Questions and Data source –
https://www.kaggle.com/yamqwe/depression-anxiety-stress-scales