**CGM prediction Project**

In this project, we will develop a continuous meal detection method from glucose monitor data of a subject. You will be given CGM sensor outputs for a given person for nearly 6 months. The CGM output is every 5 mins. You will also be given ground truth for every meal instance. You will have to develop a continuous meal detection algorithm.

Task list

1. Parse CGM data and synchronize meal ground truth with CGM data
2. Write four algorithms for online detection of meal event
   1. Auto regression based modeling of CGM
      1. Algorithm development, SARIMA
      2. Algorithm Instantiation
      3. Algorithm implementation
      4. Training and Testing accuracy
   2. Kalman Filter based meal detection
      1. Algorithm development (Ask IMPACT Lab for algorithm)
      2. Algorithm Instantiation
      3. Algorithm implementation
      4. Training and Testing accuracy
   3. RNN based meal detection
      1. Algorithm development (Use Tensor Flow for example)
      2. Algorithm Instantiation
      3. Algorithm implementation
      4. Training and Testing accuracy

3. Apply your algorithms to a new patient

4. Provide Execution time analysis

5. Develop an initial algorithm for prediction of meal from CGM

i) Algorithm development

ii) Instantiation

iii) Implementation

iv)Training and testing accuracy