**Forecasting potential health threats**

As this is a part of cyber physical systems and a sub division of health monitoring systems this problem can be taken up as an opportunity to solve the grave health problems of many patients. Which is a greater problem when India comes into picture due to the population criteria. Doctors cannot keep track of individual patients, especially when the numbers are in 5 digits.

**Abstract:**

In the field of medicine, it is very difficult for us to predict certain cases like heart attacks and allergic reactions, even when we have practically thousands of cases to learn from. This problem can potentially be solved by monitoring, a patient’s, pulse, oxygen levels, temperature, blood pressure, stress level etc. and generating a real-time report of the patient and by comparing the data to the various medical cases, using machine learning algorithms to predict incidents.

The algorithm will run all possible combinations based on the patient’s history and the data gathered instantaneously and predict the outcomes. It will keep in account the time constraint and notify the operator, if any unfortunate events predicted.

**Technical information:**

We will be using Intel Edison/Intel Genuino 101 to interface the monitoring sensors and the display systems needed. It will be integrated with python machine learning algorithms. We will be using time series forecasting and variable based forecasting methods to predict the above-mentioned events. The microprocessor will be operated using embedded C to interface the sensors and integrate Lightgbm, adaboost(python machine learning algorithms).