# Final Project Proposal

# Topic : HealthCare

# Team 5

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# Final Project Proposal(HealthCare)

## Abstract:

Healthcare is the most critical aspect for anyone across the globe. Health of every individual is hence very important not only for them but also for hospitals, which take charge of curing them. Emergency readmission to hospital is frequently used as a measure of the quality of a hospital because a high proportion of readmissions should be preventable if the preceding care is adequate. Hospitals are required to maintain rates of readmission below a national standard, else they face sanctions and fines. We seek to predict whether a patient discharged from hospital will return within 30 days as an emergency admit.

# Introduction

We have data from two major hospitals with information on their emergency admissions. Data include demographic information, outcomes, all laboratory testing done while the patient is hospital for that admission. The accuracy measure for the models is classification accuracy as measured by the area under the ROC curve.

**Datasets:**

1. https://www.healthdata.gov/dataset/medicaid-chronic-conditions-inpatient-admissions-and-emergency-room-visits-zip-code

2. https://inclass.kaggle.com/c/predicting-30-day-hospital-readmissions

3. https://archive.ics.uci.edu/ml/datasets/Diabetes+130-US+hospitals+for+years+1999-2008

**Steps:**

1. Data ingestion from dataset.
2. Data cleaning and wrangling
3. Training of Model using Microsoft Azure Machine Learning Studio
4. Building a website using HTML, , Bootstrap, Angular JS, C#, Java
5. Deploying Web Service

Building Machine Learning as a Service to detect malicious threat to the Network. • Data preparation using R & Python • Training of Model using Microsoft Azure Machine Learning Studio • Deploying the web service • Building a website using HTML, Bootstrap, Angular JS, C#, Java

## Deliverables:

- R scripts for data ingestion and data wrangling.
- Azure models for prediction of of readmission greater than 30 .
- Web application that takes user inputs and returns predicted results based on the azure model.
- Visualization of various aspects of health related issues and readmissions of patients using tableau integration with R/website
- Deploying the web service using one of cloud offerings.

**Languages**: R, JAVA
**Tools**: R studio, Eclipse, Azure ML Studio, postman, Tableau
**Technologies**: Spring MVC, Restful web service