**CSE720 Project**

**Heart Disease Prediction**

**Abstract**

Heart disease is one of the leading causes of death worldwide. Early detection and prevention of this disease can significantly reduce mortality rates.

In this problem we will be using Machine Learning to predict if any person is suffering from heart disease or not and also performing Analysis on the dataset.

**Dataset:**

The data set contains:

* age
* sex
* chest pain type (4 values)
* resting blood pressure
* serum cholestoral in mg/dl
* fasting blood sugar > 120 mg/dl
* resting electrocardiographic results (values 0,1,2)
* maximum heart rate achieved
* exercise induced angina
* oldpeak = ST depression induced by exercise relative to rest
* the slope of the peak exercise ST segment
* number of major vessels
* thal: 3 = normal; 6 = fixed defect; 7 = reversable defect
* Target :  
  1 has a heart disease  
  0 : not has a heart disease

**Identifying the computer needs:**

* Identifying the basic computing needs for a machine learning problem is an important step in developing a successful machine learning solution
* Hardware requirements, Software requirements, Data requirements, Compute infrastructure, Optimization techniques, Monitoring and management.

**Regex Calculations:**

* Perform regex operations on dataset
* For example, Use the regular expression patterns to search for data in the dataset. You can use functions like re.findall() or re.search() in Python to extract data that matches your pattern.

**Data Cleaning:**

* Identifying and correcting errors, inconsistencies, and inaccuracies in a dataset.

**Data Visualization:**

* Visualize the variables in the dataset.

**Model:**

* Statistical or machine learning model that can make predictions or generate insights from the data.