Capstone Two Project Proposal

Problem statement:

How can we predict the likelihood of having heart disease based on risk

factors such as blood pressure, blood sugar, and cholesterol?

Context:

Cardiovascular disease (CVD), also commonly known as “heart disease”

is a class of diseases that involve the heart and blood vessels. Cardiovascular disease

is the number one cause of death globally with the exception of Africa. It has caused

more than 17.9 million deaths (32.1%) in 2015, up from 12.3 million (25.8%) in 1990. In

the United States, 71% of CVD occurs In people between the ages of 60 and 80; while,

85% occurs in people over 80. The average age of death from coronary artery disease is

80 in the developed world and 68 in the developing world. Types of cardiovascular

disease include coronary artery disease, stroke, heart failure, hypertensive heart

disease, rheumatic heart disease, and cardiomyopathy.

Criteria for success:

Success is defined by being able to detect cardiovascular disease with

80% accuracy.

Scope:

The risk of having cardiovascular disease will be evaluated based on

several factors including age, sex, chest pain type, resting blood

pressure, cholesterol, fasting blood sugar, blood pressure, blood sugar,

resting ECG, max heart rate, presence of exercise induced angina, oldpeak, and

ST\_slope.

Constraints: There is no information regarding family history or any hospitalizations for

cardiovascular disease. Certain ethnic minorities are at more risk for cvd than

Others; however, such data is not provided in this dataset.

Stakeholders: The stakeholders include cardiologists and other medical professionals from the

areas the data was obtained from including the V.A. Medical Center, Long Beach and Cleveland

Clinic Foundation; The Hungarian Institute of Cardiology Budapest; University Hospital Zurich,

Switzerland and University Hospital Basel, Switzerland.

Datasources:

Patient data was collected from the following sources:

Robert Detrano M.D., PhD. of the V.A. Medical Center, Long Beach and the Cleveland Clinic Foundation.

Andras Janosi M.D. of the Hungarian Institute of Cardiology, Budapest

William Steinbrunn M.D. of University Hospital, Zurich, Switzerland.

And Matthias Pfisterer M.D. of University Hospital, Basel, Switzerland.

The heart disease data is present in the University of California Irvine Machine

Learning Database (<https://archive.ics.uci.edu/ml/machine-learning-databases/heart-disease/>)

Donor:

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This Heart Failure Prediction Dataset is presented by fedesoriano on kaggle.com

(<https://www.kaggle.com/fedesoriano/heart-failure-prediction>)