**Topic:**

Developing a Machine Learning prediction model for Diabetes Health Marker Dataset

**Description:**

Machine Learning (ML) is a branch of artificial intelligence (AI) focused on developing systems that can learn from data, identify patterns, and make decisions with minimal human intervention. Instead of being explicitly programmed to perform a task, machine learning models use algorithms to build a mathematical model based on input data, allowing them to make predictions or decisions without being manually coded for every possible scenario.

In this project, we are building the prediction model by which taking few queries about health-related risk factors, chronic disease. For this we have selected to work on [Diabetes Health Indicator Dataset](https://www.kaggle.com/datasets/alexteboul/diabetes-health-indicators-dataset) which is built by the Behavioural Risk Factor Surveillance System (BRFSS) via health-related telephone survey collected annually. Each year, survey collects the information over 400,000 Americans on health-related risk behaviours, chronic health conditions, and the use of preventative services.

The Diabetes Health Indicator datasets has these features: Diabetes, HighBP, HighChol, CholCheck, BMI, Smokes, Stroke, HeartDiseaseorAttack, PhysActivity, Fruits, Veggies, HvyAlcoholConsump, AnyHealthcare, NoDocbcCost, GenHlth, MentHlth, PhysHlth, DiffWalk, Sex, Age, Education and Income.

The Source code will be written in Python 3.9 and which will asking few questions from user and make the prediction for a person is Diabetes / Non-Diabetes.

**Outcomes:**

1. Does Age, Education and Sex have more impact on Diabetes?
2. Which features has more importance on Diabetes while performing predictive analysis?
3. Which predictive model is the best for your prediction analysis, in terms of time and accuracy?
4. What is the usages of the developed predictive Model?

**Platform:** Windows/Linux/OSX

**Language:** Python 3.9

**Modules:** NumPy, Pandas, Scikit-Learn, Seaborn or Matplotlib