**VitalMap: Predictive Disease Analysis and for Diabetes, Liver Disease, and Breast Cancer**

***Concept of the project***

This project focuses on disease prediction using patients' vital data. It involves creating a website that utilizes algorithms such as decision tree classifier, k-neighbors classifier, and random forest classifier to predict diseases like diabetes, liver disease, and breast cancer.

***Problem Statement***

Develop a disease prediction system that utilizes patients' vital data to accurately predict diabetes, liver disease, and breast cancer.

**The objective of the Project:**

1.Develop accurate disease prediction system based on patients' vital data.

2.Create user-friendly website for easy input of vital information and disease predictions.

4.Utilize algorithms (decision tree, Logistic Regression, random forest) for improved prediction accuracy.

***Data sources used***

[diabetes.csv | Kaggle](https://www.kaggle.com/datasets/saurabh00007/diabetescsv)

[Breast Cancer Dataset | Kaggle](https://www.kaggle.com/datasets/yasserh/breast-cancer-dataset)

[Liver Disease Patient Dataset 30K train data | Kaggle](https://www.kaggle.com/datasets/abhi8923shriv/liver-disease-patient-dataset)

***Data Analytics software used***

*Python & Jupyter, Pycharm Notebook Libraries used:*

Pandas, numpy, matplotlib, sklearn, seaborn, power bi, warning library, joblib, Flask, math, wtform, HTML, CSS.

***Machine Learning Algorithms used:***Decision Tree Classifier, Logistic Regression, Random Forest Classifier

***Methodology :***

The project methodology involves five steps: data preprocessing using Pandas and NumPy for cleaning and transformation, exploratory data analysis with Matplotlib, Seaborn for insights and patterns, training and evaluating predictive models (Decision Tree Classifier, Logistic Regression, Random Forest Classifier) using Scikit-learn, serialization of models with Joblib for storage, and developing a Flask web application for disease prediction and world map visualizations of cases and deaths in specific countries.

***Probable Outcome :***

The project aims to predict diseases using patients' vital signs through a website. By leveraging tools like pandas, numpy, matplotlib, sklearn, seaborn, and algorithms such as decision tree classifier, Logistic Regression, and random forest classifier, the project expects to achieve accurate disease predictions. The outcomes include improved understanding of risk factors, identification of high-risk regions, and potential contributions to early detection and prevention efforts.