Problem Statement

Mentorness Internship Program

Project Name: Brain Stroke Prediction

To build a predictive model using machine learning techniques that can accurately classify whether a patient is at risk of having a stroke based on the provided attributes. The model will be evaluated on its accuracy, precision, recall, and F1 score to ensure its effectiveness in real-world scenarios.

Overview:

The goal of this project is to develop a machine learning model capable of predicting the likelihood of a patient experiencing a brain stroke based on a set of demographic, health, and lifestyle attributes. This predictive model aims to aid healthcare professionals in identifying high-risk individuals early, enabling proactive measures to be taken to prevent strokes and improve patient outcomes

Dataset:

- **id**: Unique identifier for each patient.
- **gender**: Gender of the patient, with possible values being "Male", "Female", or "Other".
- **age**: Age of the patient in years.
- **hypertension**: Indicator of whether the patient has hypertension (1) or not (0).
- **heart_disease**: Indicator of whether the patient has any heart disease (1) or not (0).
- **Ever_married**: Marital status of the patient, with possible values being "No" or "Yes".
- **work_type**: Type of employment the patient is engaged in, with possible values being "children","Govt_job", "Never_worked", "Private", or "Self-employed".
- **Residence_type**: Type of residence the patient lives in, with possible values being "Rural" or "Urban".
- **avg_glucose_level**: Average glucose level in the patient's blood.
- **bmi**: Body Mass Index of the patient.
- **smoking_status**: Smoking status of the patient, with possible values being "formerly smoked", "neversmoked", "smokes", or "Unknown".
- **stroke**: Target variable indicating whether the patient has had a stroke (1) or not (0).

Deliverables:

- Source code file from any IDE with all the steps.
- PowerPoint presentation
- Video explaining the tasks you have performed along with insights you have gained for Brain Stroke Prediction.

Good luck, and enjoy your journey into the world of data analysis!