Data Description

This dataset is from IntelliMed healthcare analytics vendor with medical decision support systems in several major hospitals across Victoria. Their major focus is on enhancing patient care by assisting medical practitioners with clinical insights using data analytics. They have a need to develop a feature into their platform for prediction of cardiac arrest, one of the leading causes of death in Australia.

Assume you are a data analytics professional in the IntelliMed analytics team, and you have been asked to develop a machine learning model to predict the likelihood of a heart attack. Your analysis should adhere to the data analytics lifecycle and is expected to focus on,

- Data pre-processing
- Data exploration (descriptive analytics)
- Feature engineering
- Predictive modelling (predictive analytics)
    - Classification models
    - Ensemble approaches
- Model Explainability (XAI)

The train dataset provided to you has 734 records, while the remainder 184 records have been kept for evaluation purposes.

Feature	**Description**	**Notes**
Id	Unique ID number. prediction file should contain this feature.	
Age	Age of the patient	[years]
Gender	Gender of the patient	M: Male, F: Female
ChestPainType	Chest pain type	TA: Typical Angina, ATA: Atypical Angina, NAP: Non-Anginal Pain, ASY: Asymptomatic
RestingBP	Resting blood pressure	[mm Hg]
Cholesterol	Serum cholesterol	[mm/dl]
FastingBS	Fasting blood sugar	[1: if FastingBS > 120 mg/dl, 0: otherwise]
RestingECG	Resting electrocardiogram results	Normal: Normal, ST: having ST-T wave abnormality (T wave inversions and/or ST elevation or depression of > 0.05 mV),

		LVH: showing probable or definite left ventricular hypertrophy by Estes' criteria
MaxHR	Maximum heart rate achieved	Numeric value between 60 and 202
ExerciseAngina	Exercise-induced angina	Y: Yes, N: No
Oldpeak	Oldpeak = ST	Numeric value measured in depression
ST_Slope	The slope of the peak exercise ST segment	Up: upsloping, Flat: flat, Down: downsloping
HeartDisease	Target	1: heart disease, 0: Normal