

# Model Selection & Evaluation

Briefly explain the importance of car price prediction in the automotive industry.  
Provide an overview of the dataset used for this assignment, including the relevant features and target variable.

State the objective of the assignment, which is to predict car prices accurately using machine learning algorithms.

## Assignment-7

### Task 1: Data Preprocessing:

Discuss the steps involved in cleaning and preprocessing the dataset, such as handling missing values, categorical encoding, and feature scaling. (**Car Price Dataset**)

### Task 2: Feature Selection and Engineering:

Explain the process of selecting relevant features for the prediction task.  
Describe any additional feature engineering techniques employed to improve the model's performance.

### Task 3: Algorithms:

***Introduce at least three different machine learning algorithms*** used for car price prediction (e.g., Bayesian Regression, Random Forest, Gradient Boosting, etc.).  
Provide a brief explanation of each algorithm and its suitability for the task.  
Discuss any hyperparameter tuning or cross-validation techniques used for optimizing the models.

### Task 4: Training, Evaluation & Selection:

Split the dataset into training and testing sets.  
Train the three algorithms on the training set and evaluate their performance using appropriate metrics (e.g., mean squared error, R-squared, etc.).  
Compare and analyze the results of the algorithms to identify the better-performing model.

**Submission:** The Entire assignment should be submitted by Sunday (10 March,2024),  
You have to upload the jupyter notebook & Dataset in GitHub with proper Repo Name.