



ML Hackathon Project Presentation

Project Title

Team Name / Student Names

Course: AI & Data Science

Instructor: Zahid Ali

Institution: Passions College



Problem Statement Examples :

What problem are you solving?

People don't know the right price of a car when buying or selling.

Why is it important?

 Provide a tool that can be used by individuals, dealers, and car platforms

What we want to achieve in this project

Build a machine learning model

Build a smart system that **predicts fair car prices** using data.

Learn teamwork & collaboration

👉 Work together as a team by **sharing tasks, communicating clearly, and solving problems together** to complete the project successfully.

Gain hands-on project experience

👉 Get real project experience and use classroom knowledge in real life to build practical data science and ML skills.

Dataset

Source of dataset

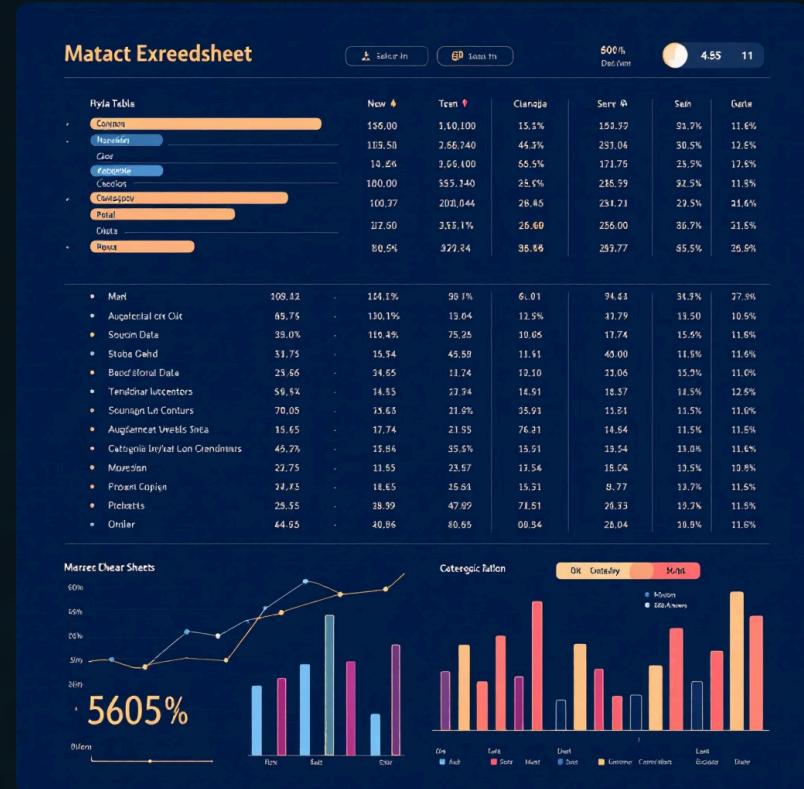
📁 The dataset was taken from [Kaggle](#) (Car Price Prediction Dataset).

Features overview

📊 It contains information like **car brand**, **year**, **mileage**, **fuel type**, and **price**.

Small table screenshot

Include a visual representation of your data structure showing sample rows and columns to give viewers a clear understanding of the dataset format.



Data Preprocessing

01

Handling missing values

- 👉 Find empty or missing data in the dataset.
- 👉 Fix them by filling with average/common values or removing rows to keep data clean.

02

Encoding categorical data

- 👉 Change words (like *Fuel* = *Petrol/Diesel*) into numbers.
- 👉 Example: Petrol = 0, Diesel = 1 — so the computer can understand it.

03

Normalization / scaling

- 👉 Adjust the data so all values are on a similar scale.
- 👉 This makes sure no single feature (like mileage or price) unfairly influences the model.

04

Train-test split

- 👉 Divide data into two parts: **Training** (to teach the model) and **Testing** (to check how well it learned).
- 👉 This helps prevent overfitting and gives a fair evaluation.

ML Model

Algorithms tried

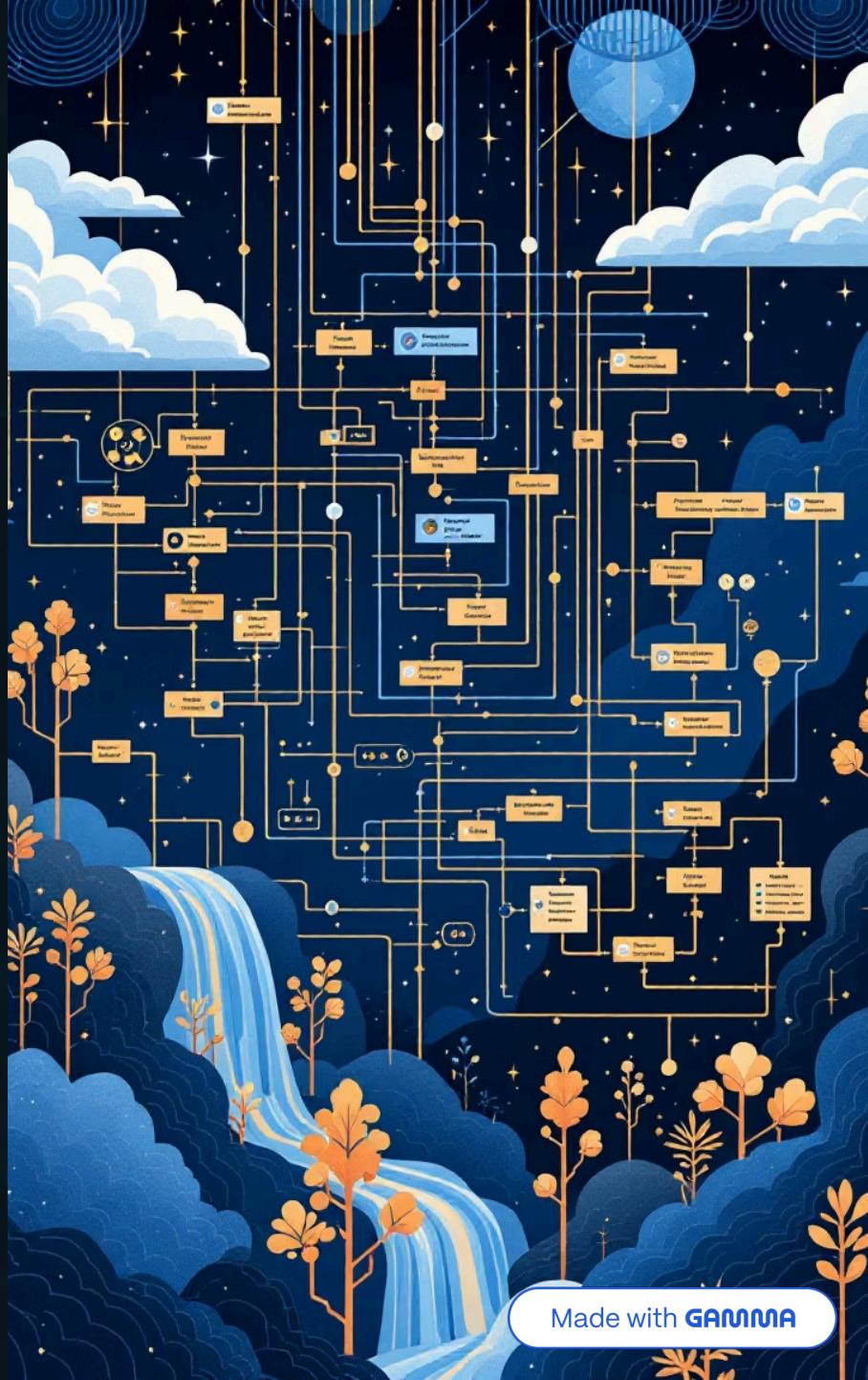
👉 Linear Regression, Decision Tree, Random Forest — tested for predicting car prices.

Why Chosen:

👉 Simple, works well with numbers and categories, balances accuracy, and avoids overfitting issues.

What are Models?

- 👉 A model is like a **smart calculator** that learns from data.
- 👉 After learning, it can **make predictions or decisions** (e.g., guessing a car's price).



Results

Metrics (How we check the model's performance)

- 👉 **Accuracy** – How many answers were correct.
- 👉 **R² (R-squared)** – Shows how well the model fits the data.
- 👉 **Precision & Recall** – How carefully and completely the model finds the right answers.
- 👉 **F1-score** – A balance between precision and recall.

⚡ Example for kids:
It's like a school test:

- Accuracy = How many questions you got right.
- Precision = How many correct answers you gave when you tried.
- Recall = Did you find *all* the right answers?
- F1-score = Your overall balance.



Demo (Optional)

Screenshots of app / output

👉 Record your slides while explaining the project step by step in simple words.

Save the video

👉 Save the video and share it as your final project presentation.

Benefits for Students



- ✓ Gained **real project experience** with data and machine learning
- ✓ Learned **teamwork and communication** like in real companies
- ✓ Improved **problem-solving and critical thinking** skills
- ✓ Practiced **online collaboration**, following industry standards
- ✓ Built **confidence** for future jobs and projects



Thank You