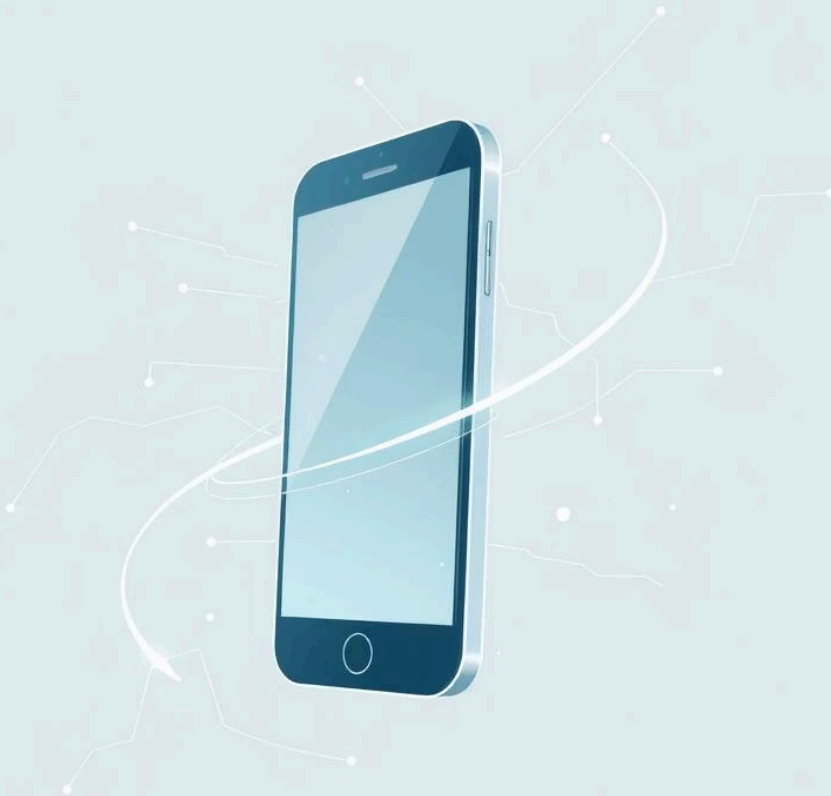
Feature Extraction & Price Prediction for Mobile Phones

Presented by Shivangi Chaudhary

Company- Nexthikes IT Solutions



Project Overview

Goal

Develop a model to predict mobile phone prices based on features for better pricing strategy and market insights.

Data Overview

Dataset of 600+ phones, including Model, Colour, Memory, RAM, Battery, Cameras, Processor, and Price.

Workflow & Key Features

Workflow Approach

01

Data Exploration & Preprocessing

02

Feature Extraction

03

Model Building

04

Evaluation (MAE, RMSE, R^2)

Most Influential Features

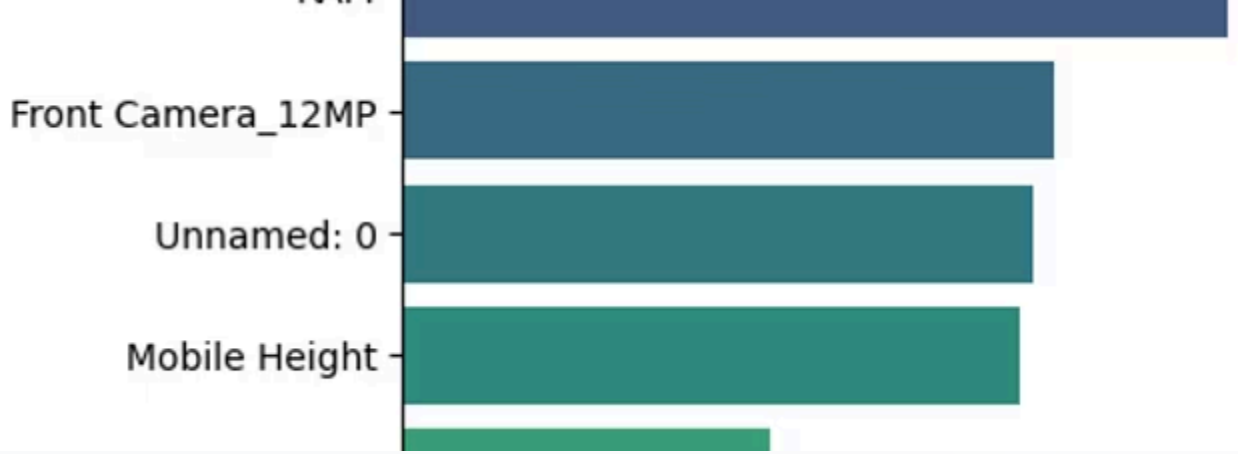
Processor

RAM & Internal Memory

Rear Camera

Battery Capacity

Less influential: Colour, AI Lens, Mobile Height.

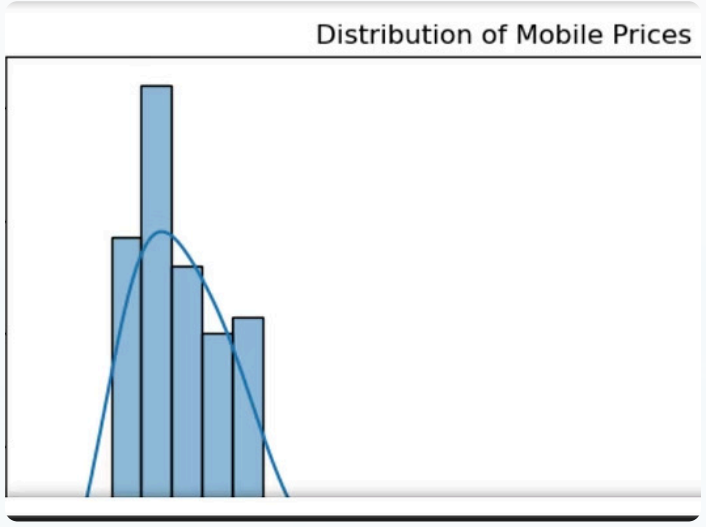


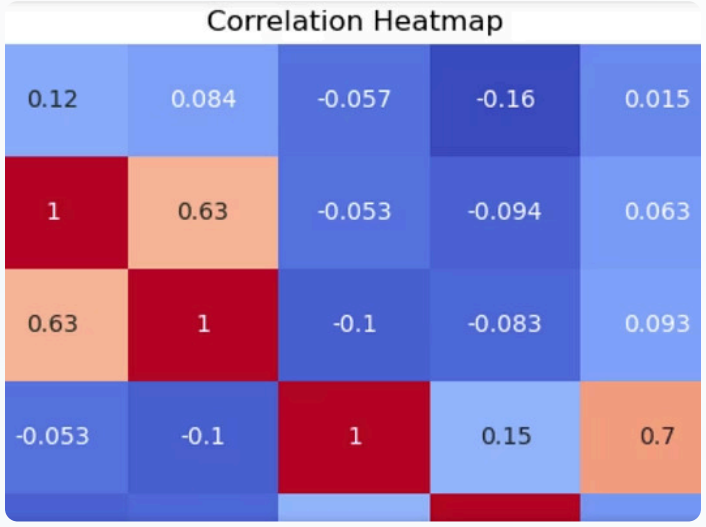
Model & Results

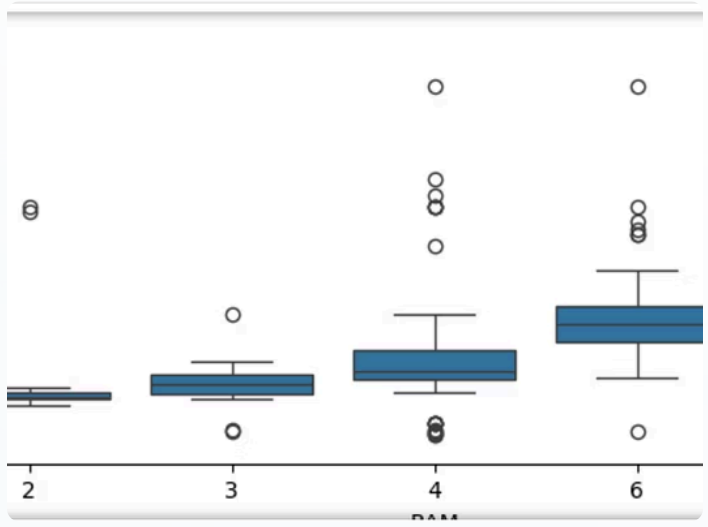
—	2047.03	4950.9	0.822
Best Algorithm	**MAE**	**RMSE**	**R^2**
Random Forest and Gradient Boosting	Mean Absolute Error	Root Mean Squared Error	Coefficient of Determination

The model reliably predicts mobile prices based on key features.

Visualizations







These visualizations illustrate the model's accuracy and the impact of various features on price prediction.

Recommendations

Focus on Key Features

Prioritize high RAM & Memory, powerful Processors, superior Cameras, and larger Batteries in pricing and marketing strategies.

De-emphasize Minor Attributes

Colour, Mobile Height, and AI Lens are less critical for pricing decisions.

References

What is Feature Engineering? - GeeksforGeeks

What is Feature Extraction and Feature Extraction Techniques

All about Categorical Variable Encoding | Towards Data Science

Lec-36: Feature Extraction in Data preprocessing | Machine Learning

Thank You

Thank you for your attention. We hope this presentation offered valuable insights. Please feel free to ask any questions. (Also, the images that I have used in this ppt are from snippets from my projects.)