Laptop Price Analysis

JULY 2023

About Project

A little bit about our team project.

Team Member:

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We are students from the university of Institute Of Technology Of Cambodia in department of Applied Mathematics and Statistics(AMS).

Project Description

The objective of this project is to first analyst laptop data then we develop a machine learning model that can predict the price of laptops in the Cambodian market. The data for this project will be collected from the Khmer24 website, which is a popular online marketplace in Cambodia.

The machine learning model will be trained on this data to learn the relationship between the laptop features and their prices. Once the model is trained, it can be used to predict the price of any laptop in the Cambodian market.

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Our Goals and Objectives

Our goals and objectives of this project is to searching for the right machine learning algorithms that could fit well with our data. By fitting well it means that the model can learn the underlying and pattern data well and could perform well on predicting the new or unseen data. So in our case we have tried many different models from simple model to complex model in order to predict the prices of laptops.

The benefits of this project include:

- Helping consumers to make more informed decisions about laptop purchases
- Helping businesses to set competitive prices for their laptops
- Providing valuable insights into the laptop market in Cambodia

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Project Timeline

THIS SECTION INCLUDES THE PROJECT PROCESSES, IMPLEMENTATION, AND EXECUTION.

TASK	START DATE	END DATE
WEB SCRAPING	MARCH 2023	APRIL 2023
DATA ANALYST	APRIL 2023	JUNE 2023
MODEL BUILDING	JUNE 2023	JULY 2023

1. Data collection

The first step is to collect data on laptop prices from the Khmer24 website. This data can be collected using a web scraping tool. The data should include the following features:

- Laptop brand
- Laptop model
- Processor type
- RAM
- Storage
- Screen size
- Operating system
- Release date
- Price

2. Data cleaning and preprocessing

Once the data has been collected, it needs to be cleaned and preprocessed. This includes:

- Removing any duplicate or incomplete data
- Formatting the data in a consistent manner
- Dealing with missing values
- Splitting the data into training and test sets

3. Feature engineering

Feature engineering is the process of transforming the data into a format that is suitable for machine learning algorithms. This includes creating new features, removing irrelevant features, and scaling the features.

4. Model training

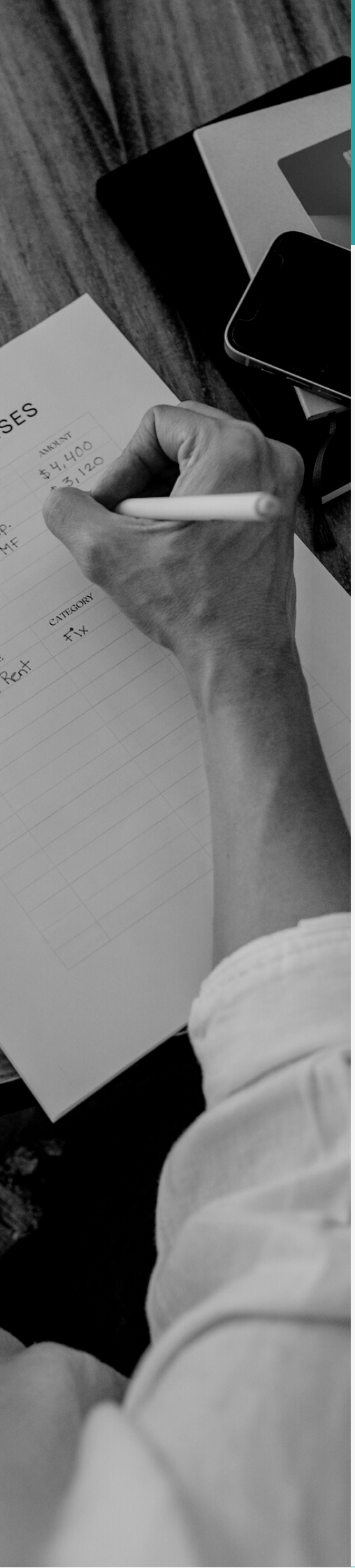
A variety of machine learning algorithms can be used to predict laptop prices. Some common algorithms include linear regression, decision trees, and random forests. The best algorithm to use will depend on the specific data set.

5. Model evaluation

Once the model has been trained, it needs to be evaluated on a holdout data set. This is a data set that was not used to train the model. The evaluation will help to determine the accuracy of the model.

6. Model deployment

The final step is to deploy the model. This means making the model available to users so that they can use it to predict laptop prices. The model can be deployed in a variety of ways, such as as a web service or a mobile app.



Project risks

The main risks associated with the project are:

- The data may be incomplete or inaccurate.
- The machine learning model may not be able to learn the relationship between the laptop features and their prices.
- The model may not be able to generalize well to new data.

Project mitigation strategies

The following mitigation strategies will be used to address the risks associated with the project:

- The data will be carefully cleaned and preprocessed to remove any errors or inconsistencies.
- The machine learning model will be trained on a variety of data sets to ensure that it can generalize well to new data.
- The model will be evaluated on a holdout data set to ensure that it is accurate.

Project success metrics

The success of the project will be measured by the following metrics:

- The accuracy of the machine learning model
- The ability of the model to generalize to new data
- The satisfaction of the project stakeholders

Project conclusion

This project has the potential to make a significant contribution to the Cambodian market. By providing accurate and reliable price predictions, the project can help consumers to make more informed decisions about laptop purchases. The project can also help businesses to set competitive prices for their laptops.

I am confident that the project can be successfully completed within the specified timeline and budget. I am also confident that the project team has the skills and experience necessary to achieve the project goals.