## Artificial Intelligence

## and

## Machine Learning

Project Abstract

Semester-IV (Batch-2022)

Laptop Price Predictor System

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Description automatically generated with low confidence

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Laptop Price Predictor Project

**Abstract:**

In today's digital age, laptops have become an indispensable tool for both personal and professional use. With a plethora of options available in the market, consumers often find it challenging to determine the fair price of a laptop based on its specifications and features. To address this issue, we propose the development of a Laptop Price Predictor project.

The objective of this project is to create a machine learning model that predicts the price of a laptop based on its various attributes such as processor type, RAM, storage capacity, graphics card, display size, brand, and more. The model will be trained on a dataset comprising information on a wide range of laptops along with their corresponding prices.

The project will involve the following key steps:

1. **Data Collection:** Gathering a comprehensive dataset containing information on laptops and their prices from various sources such as e-commerce websites, manufacturers' websites, and tech forums.
2. **Data Preprocessing:** Cleaning and preprocessing the collected data to handle missing values, outliers, and inconsistencies. This step may also involve feature engineering to extract relevant features from the dataset.
3. **Model Development:** Implementing machine learning algorithms such as linear regression, decision trees, random forests, or gradient boosting to build a predictive model. The model will be trained on the pre-processed dataset, with features as input and laptop prices as the target variable.
4. **Model Evaluation:** Evaluating the performance of the trained model using appropriate metrics such as mean squared error (MSE), mean absolute error (MAE), or R-squared. This step ensures that the model accurately predicts laptop prices and generalizes well to unseen data.
5. **Deployment:** Integrating the trained model into a user-friendly interface, such as a web application or mobile app, where users can input the specifications of a laptop and obtain an estimated price prediction in real-time.
6. **Testing and Validation:** Thoroughly testing the deployed system to ensure its reliability, scalability, and accuracy. Validation will involve comparing the model's predictions with actual market prices and gathering user feedback for further improvements.

By developing a Laptop Price Predictor project, we aim to assist consumers in making informed purchasing decisions by providing them with reliable price estimates based on the specifications of the laptops they are interested in. This project not only showcases the application of machine learning in the domain of e-commerce but also demonstrates its potential to enhance the user experience in the tech industry.