

Laptop Price Analysis and Prediction

AN ANALYTICAL REPORT ON LAPTOP PRICING TRENDS AND STOCK INSIGHTS

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Objective



The primary goal of this project is to analyze laptop pricing trends, identify stock distributions across various configurations, and enable average price prediction based on key features using an interactive dashboard.

DATA OVERVIEW



The dataset includes detailed information about various laptop models from multiple brands with different specs, encompassing:

Company
Product
TypeName
Inches
Ram
OS
Weight
Price_euros
Screen
ScreenW
ScreenH
Touchscreen

Touchscreen
IPSpanel
RetinaDisplay
CPU_company
CPU_freq
CPU_model
PrimaryStorage
SecondaryStorage
PrimaryStorageType
SecondaryStorageType
GPU_company
GPU_model



Laptop Price Analysis

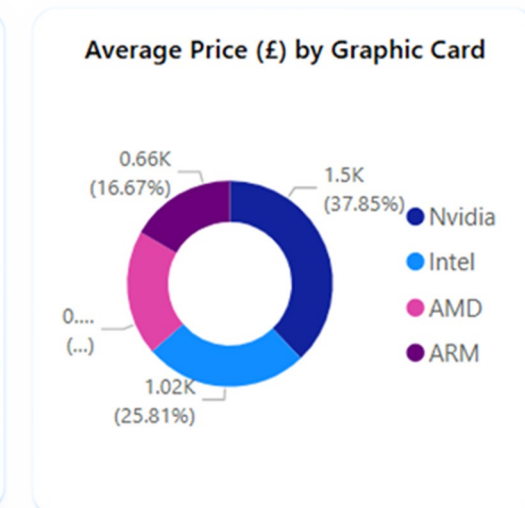
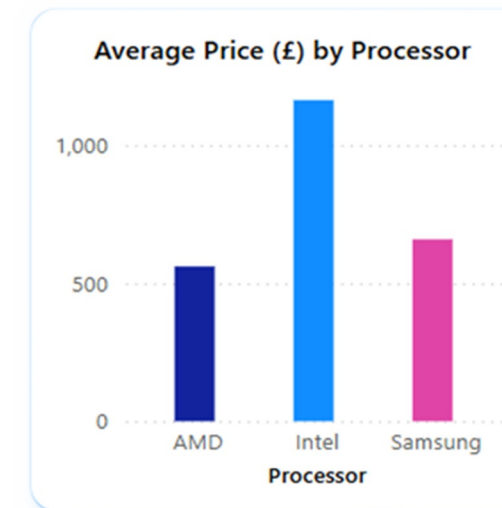
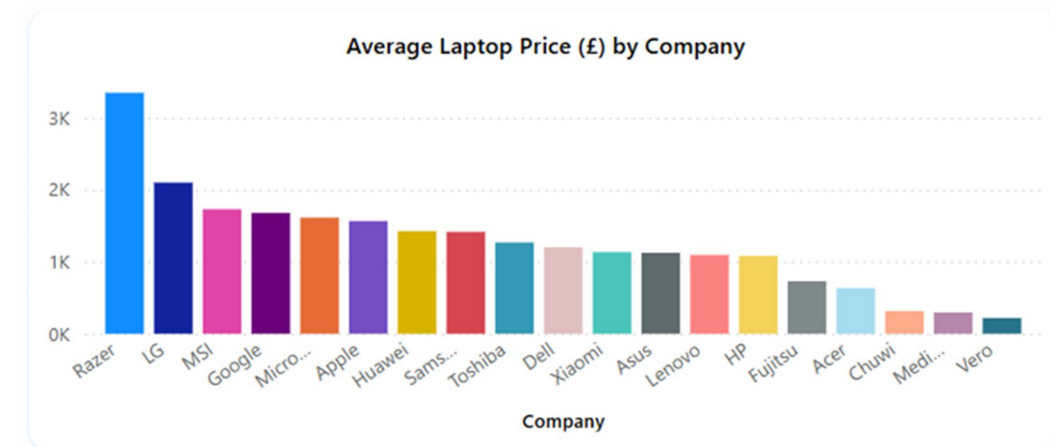
Key insights visualized:

Average Laptop Price by Company:

- Razer, LG, and MSI lead with the highest average prices.
- Brands like Lenovo, HP, and Dell are more affordable on average.

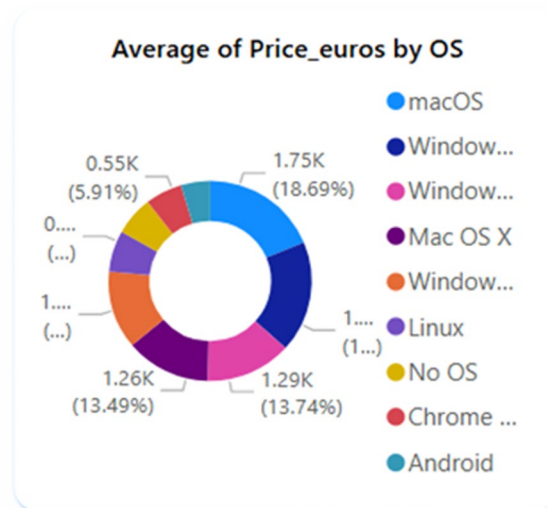
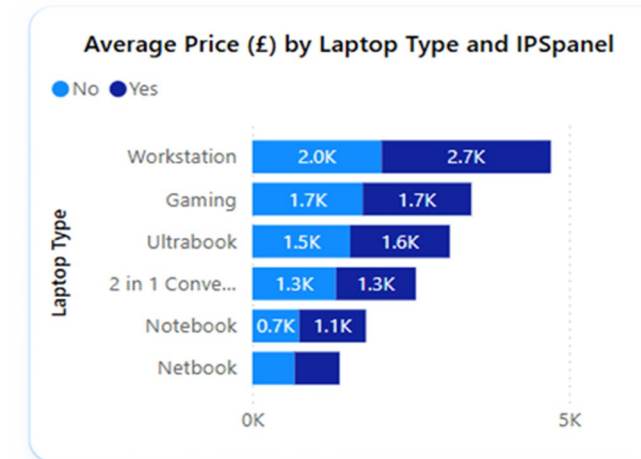
Processor and GPU Pricing:

- Intel CPUs and Nvidia GPUs result in higher average prices.
- AMD processors offer more affordable configurations.



Laptop Type and IPS Panel:

- Workstations and Gaming laptops have the highest average prices.
- IPS panels consistently increase the average price across all types



OS Comparison:

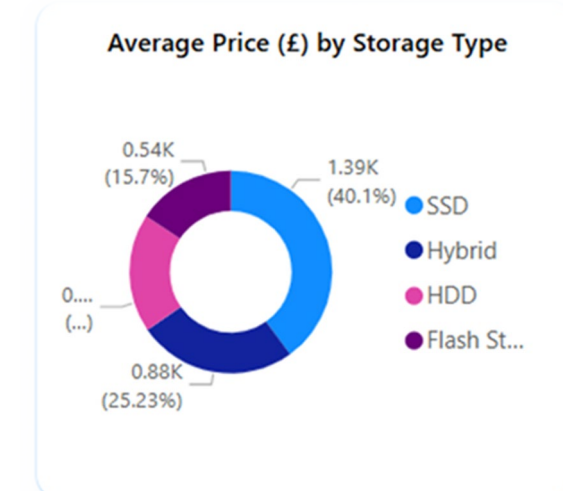
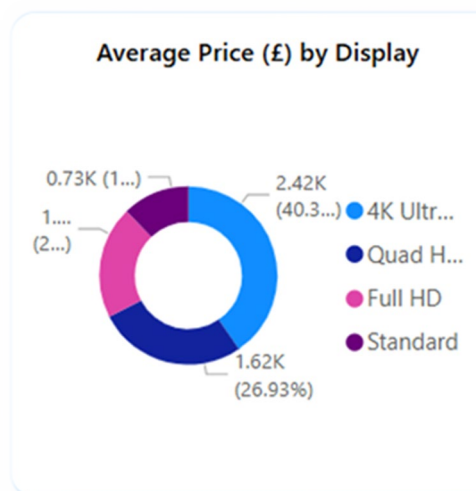
- macOS and Windows 10 Home editions are more expensive.
- Linux and Chrome OS-based devices are on the budget-friendly end.

Average Price by Storage Type:

- SSD-based laptops dominate the mid-to-high price segment
- HDDs and Hybrid storage tend to be more affordable.

Average Price by Display Resolution:

- 4K Ultra-HD laptops are the most expensive, followed by Quad HD and Full HD.
- Standard resolution laptops are the least expensive.



Laptop Stock Analysis

Key metrics shown:

Laptop Counts by Company:

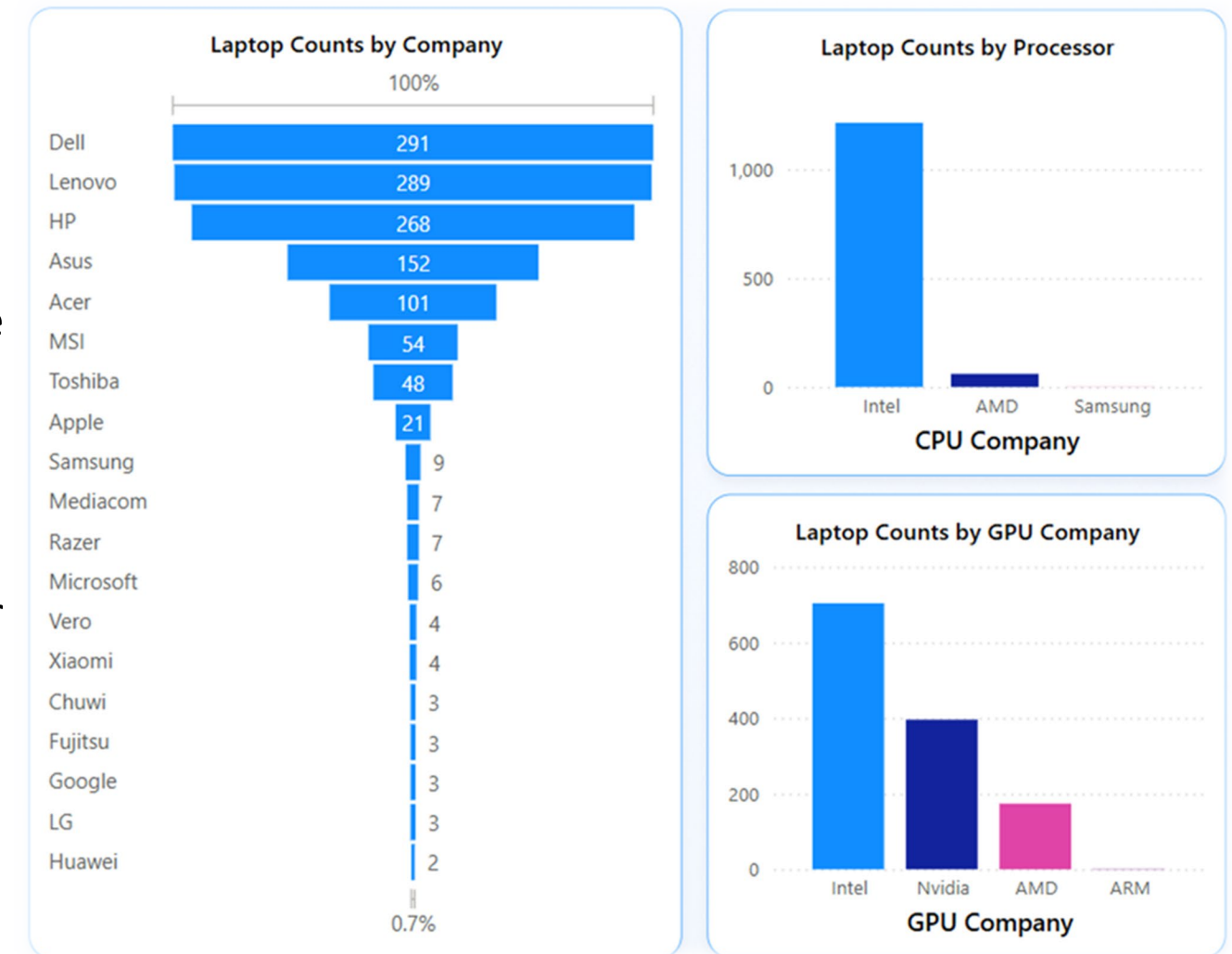
- Dell, Lenovo, and HP lead in inventory count.
- Apple and premium brands like Razer and LG have limited stock.

CPU/GPU Distribution:

- Intel CPUs are dominant in the market (over 1000 units).
- Nvidia is the second most common GPU vendor after Intel integrated graphics.

Top Processors in Stock:

- Core i5 7200U is the most stocked processor.
- HD Graphics 620 is the most common GPU.





LAPTOP PRICE ANALYSIS

174

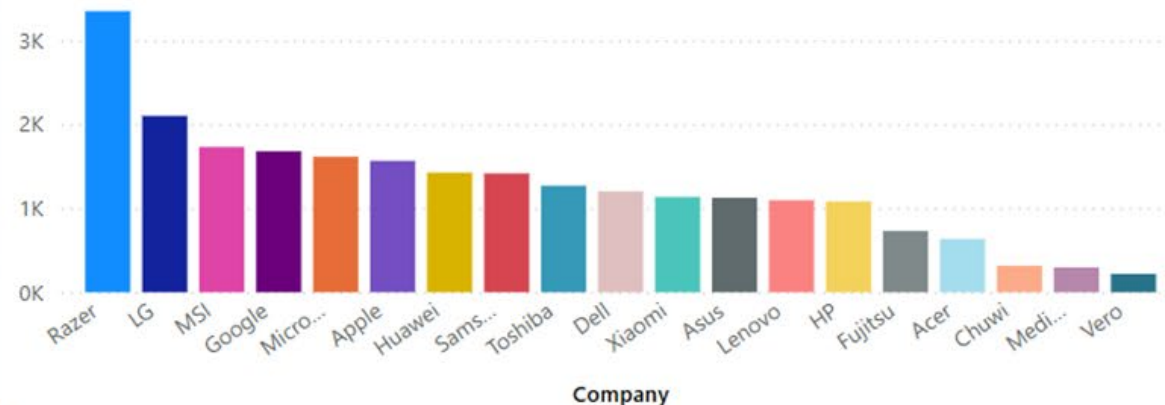
Cheapest Laptop Price (£)

6.10K

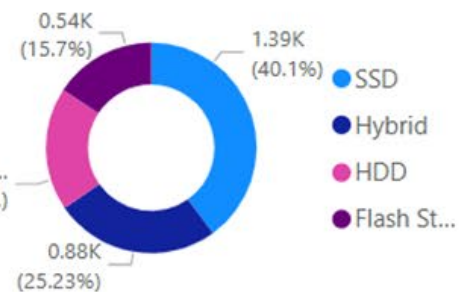
Expensive Laptop Price (£)



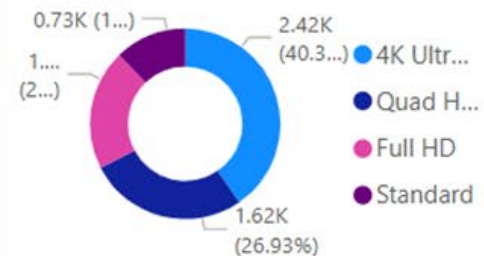
Average Laptop Price (£) by Company



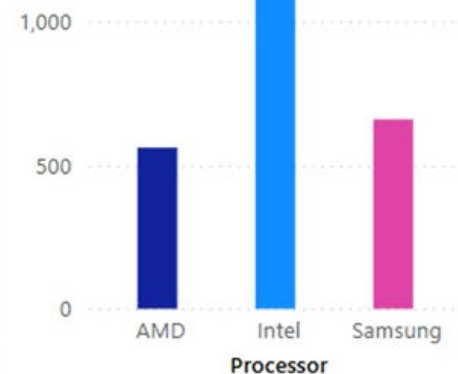
Average Price (£) by Storage Type



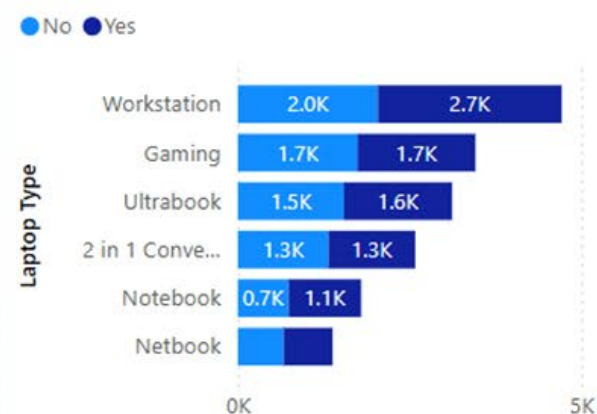
Average Price (£) by Display



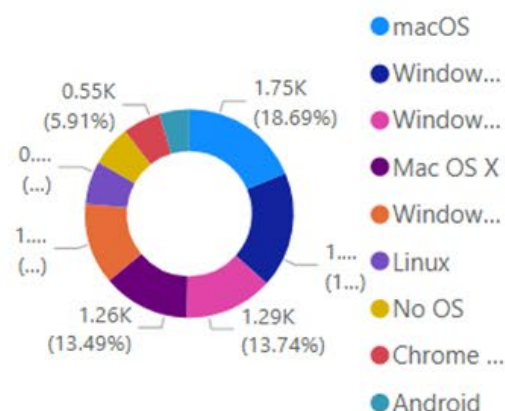
Average Price (£) by Processor



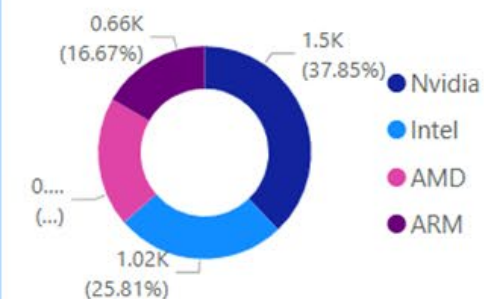
Average Price (£) by Laptop Type and IPSpanel



Average of Price_euros by OS



Average Price (£) by Graphic Card



Laptop Stock Analysis

19
Total Laptop
Companies

3
Total CPU
Companies

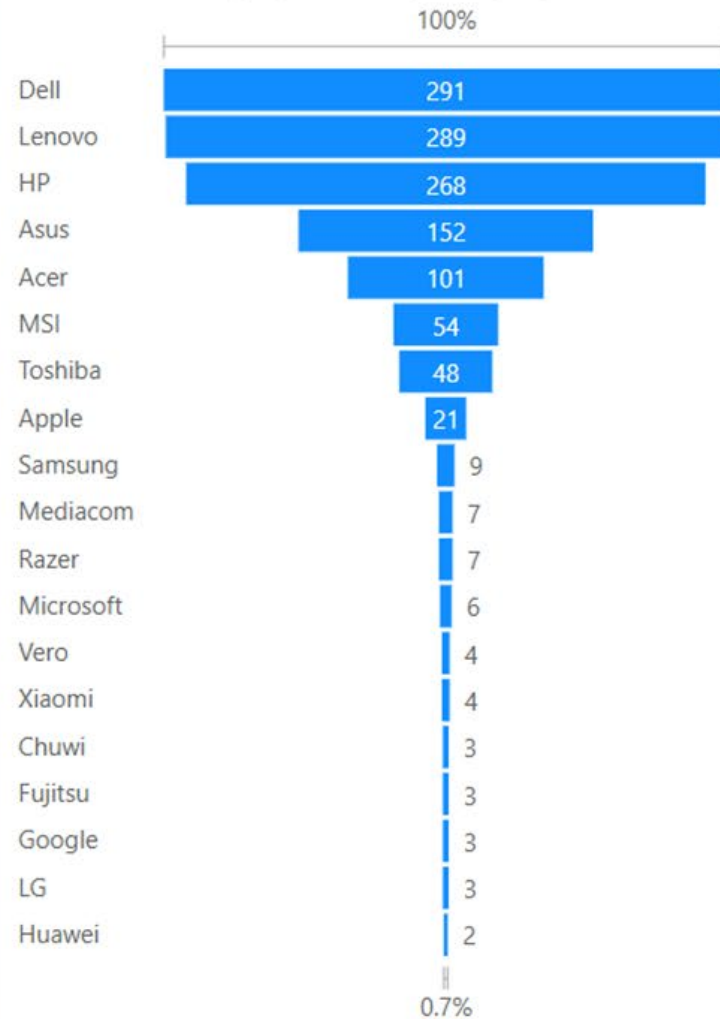
91
Total
Processors

4
Total GPU
Companies

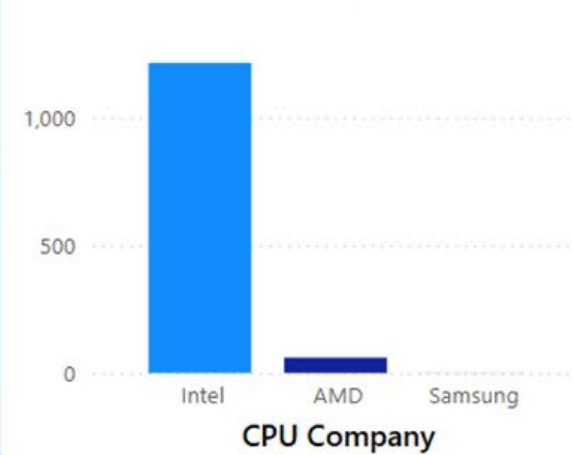
106
Total
Graphics Card



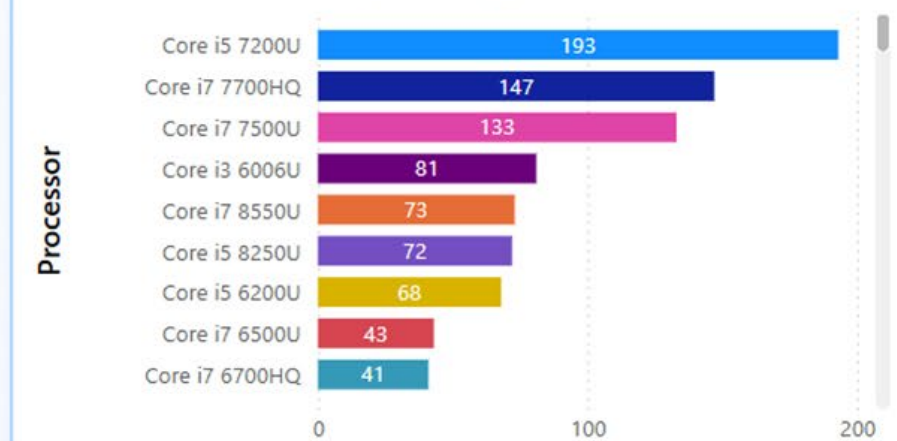
Laptop Counts by Company



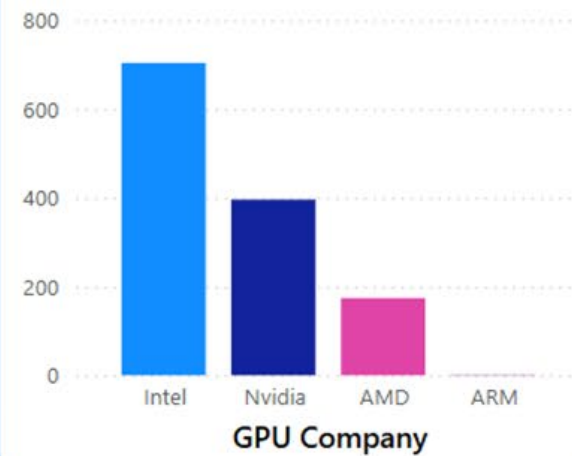
Laptop Counts by Processor



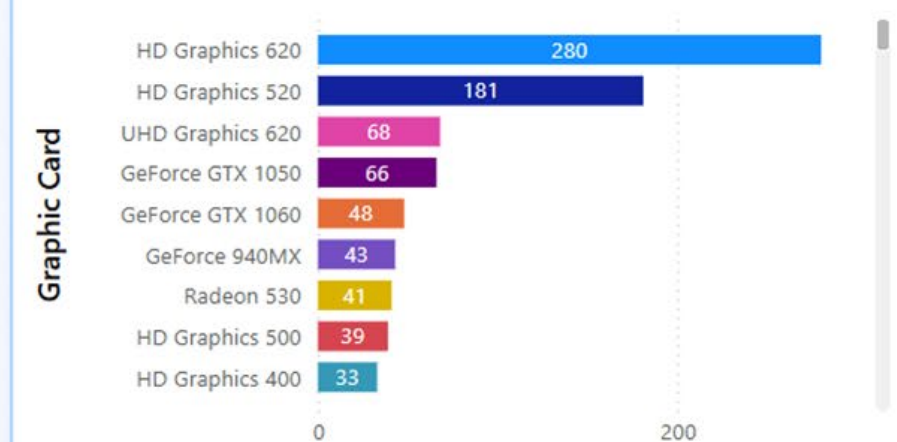
Laptop Counts by Processor

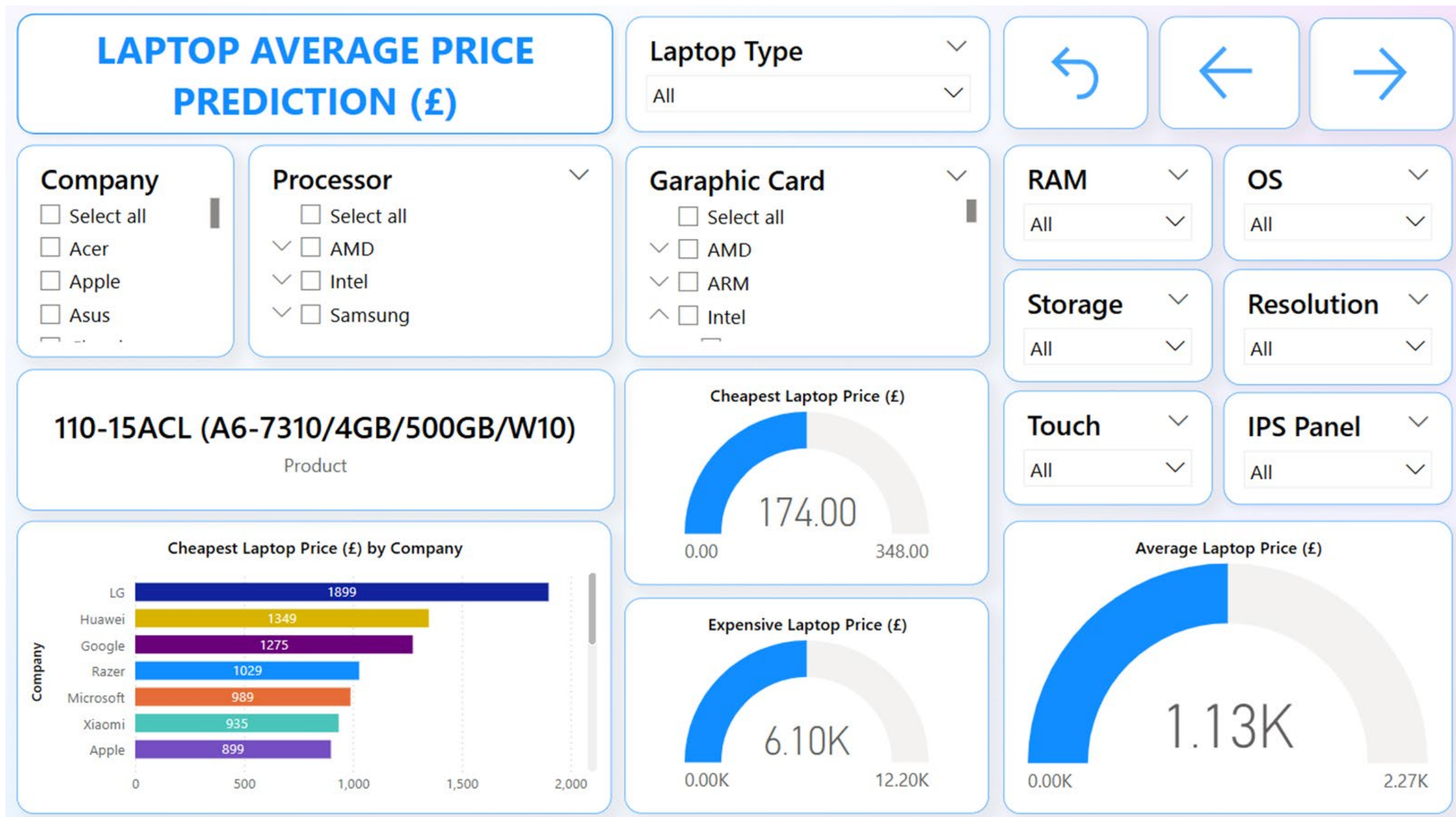


Laptop Counts by GPU Company



Laptop Counts by Graphic Card





Laptop Price Prediction

An interactive prediction model helps estimate average price based on filters

User Inputs:

Brand, Processor, GPU, RAM, Storage, Resolution, OS, Touch/IPS.

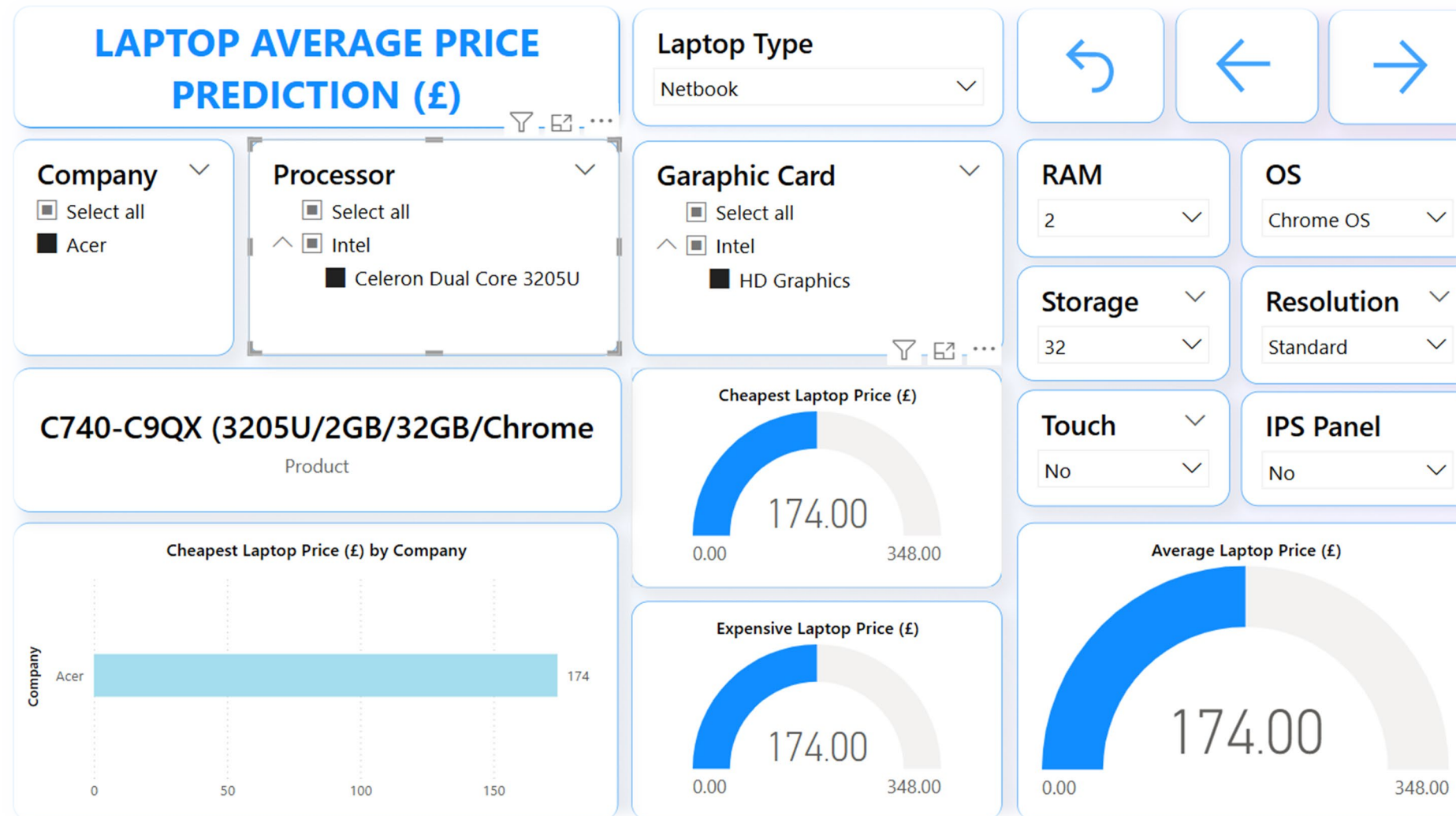
Output:

- Displays Cheapest, Most Expensive, and Average laptop prices in real-time.
- Shows matching product name when filtered down to exact specs.

Overall Market:

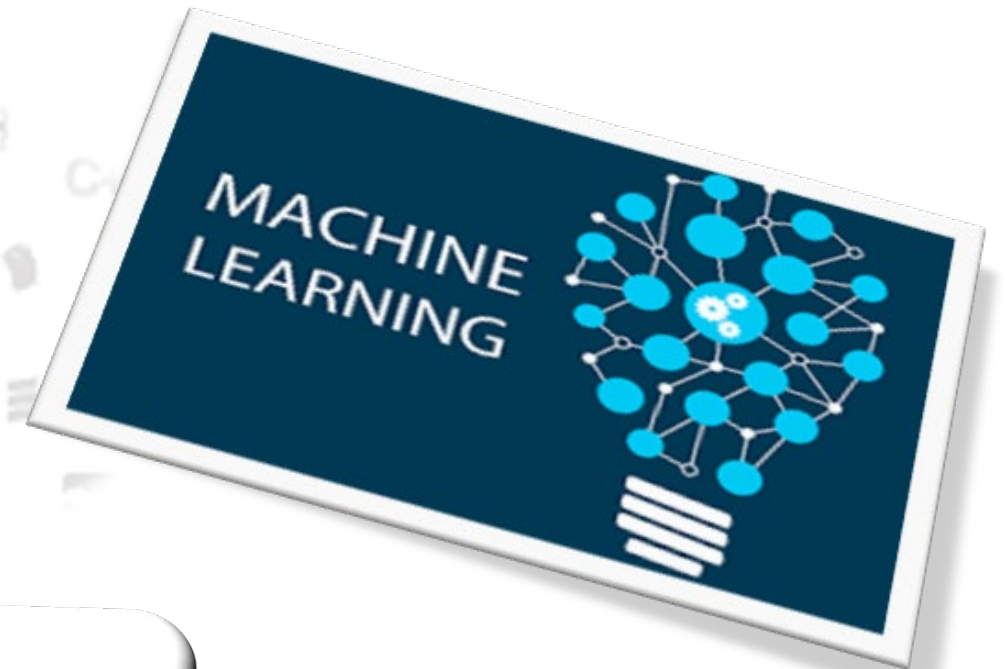
- Average Laptop Price: £1,130
- Price Range: £174 to £6,100

Filtered Price Prediction



Upon applying all the filters (such as Acer Netbook featuring Intel HD Graphics, 2GB RAM, and 32GB storage), the average price comes to £174.

Tools & Technologies Used



Key Insights

- ✓ SSDs and IPS panels contribute significantly to price increases.
- ✓ Brand reputation (e.g., Apple, Razer) drives premium pricing.
- ✓ The most common configurations are mid-range Intel i5 laptops with integrated Intel graphics.
- ✓ High display resolution and GPU-based devices (Nvidia, 4K) are niche but costly.

Business Impact

This analysis and prediction system can help:

- ❖ Retailers optimize pricing strategies.
- ❖ Customers filter and find best-value laptops.
- ❖ Manufacturers understand market competition and feature demand.

Future Improvements

- ❖ Integrate real-time price updates via APIs.
- ❖ Include user ratings and performance benchmarks.
- ❖ Add forecasting model for upcoming price trends.

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THANK
YOU