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SmartPhone Price Prediction Project

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Problem

‘‘ We are data analytics consulting team that serve on marketplace domains. Our client requests **building a prediction model** for **actual smartphone prices**. ’’

Methodology

- Data Collection with Web Scraping
- Data Cleaning and Tranformation
- Exploratory Data Analysis (EDA)
- Feature Selection and Modeling
- Model Prediction
- Interpreting Results

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Utilized Technologies

Data Overview

- Observation : **1282**
- Feature : **18**
- Target : **PRICE**
- Data Size : **318 KB**

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Web Scraping Process

1	• getAndParseURL()
2	• getPageLinks()
3	• getProductLinks()
4	• getDataFrame()
5	• getResult()

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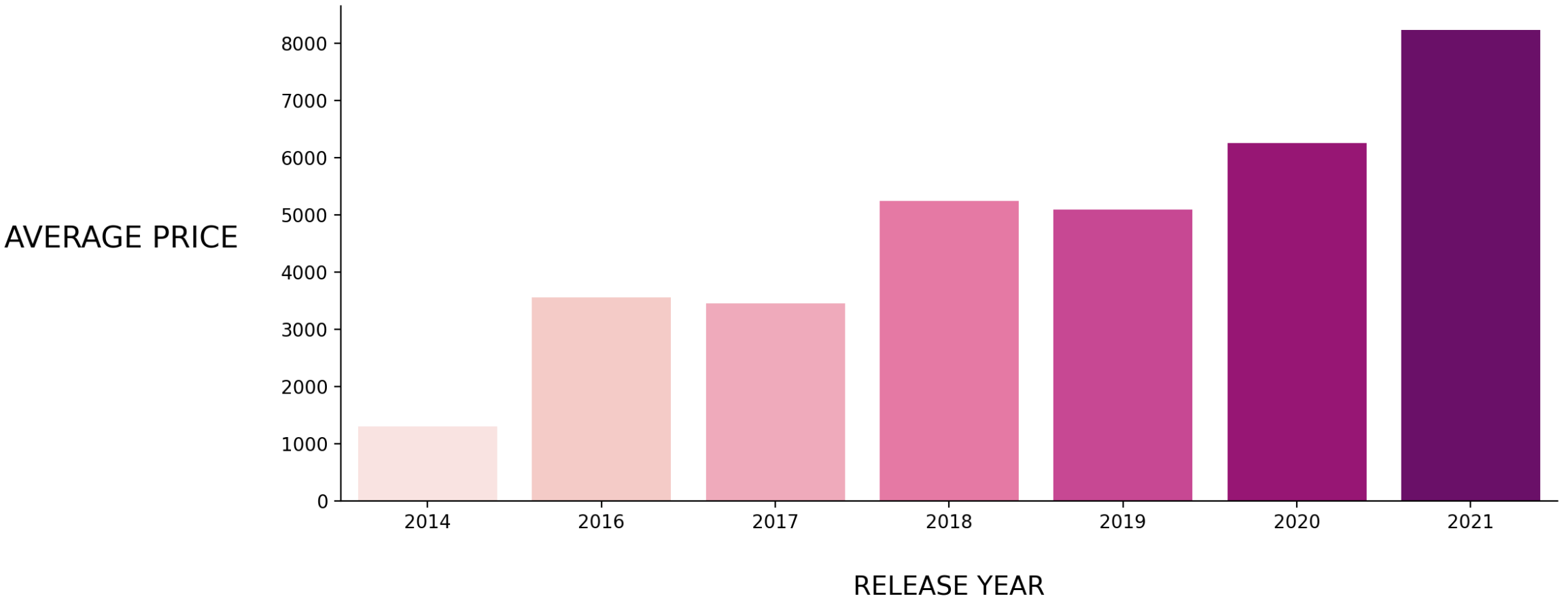
EDA - 1



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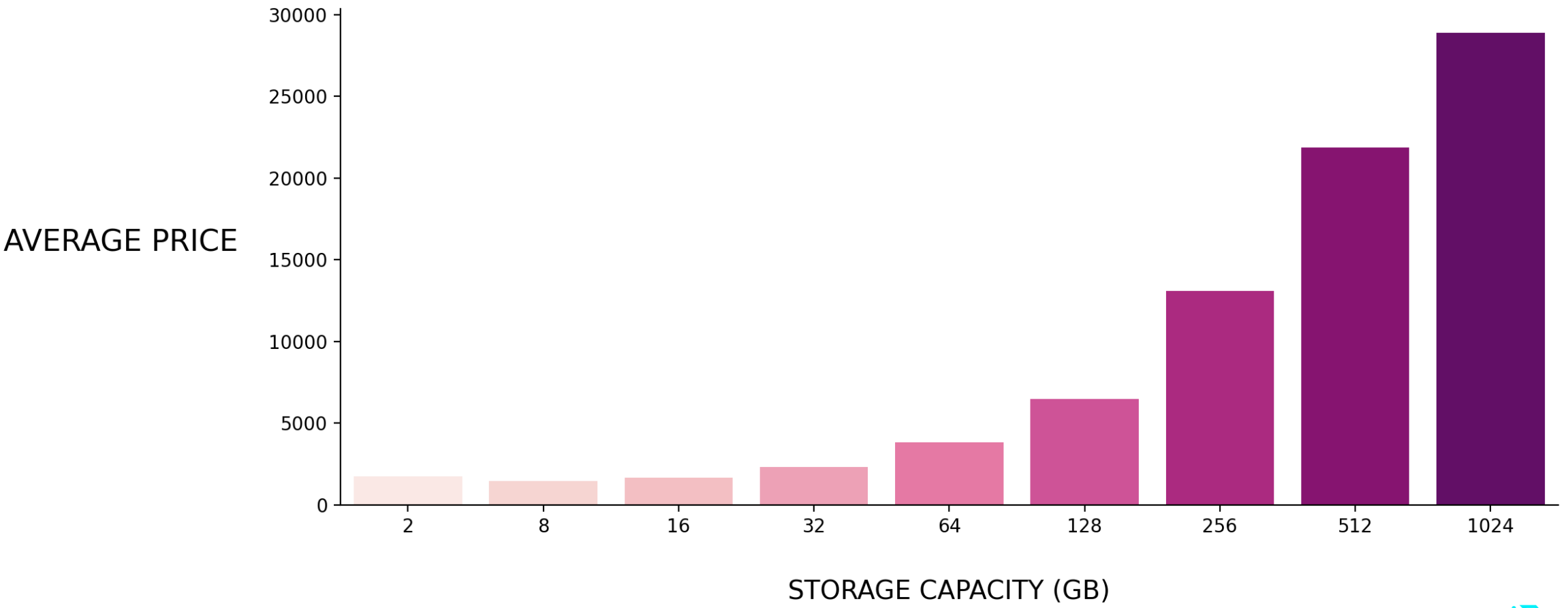
EDA - 2



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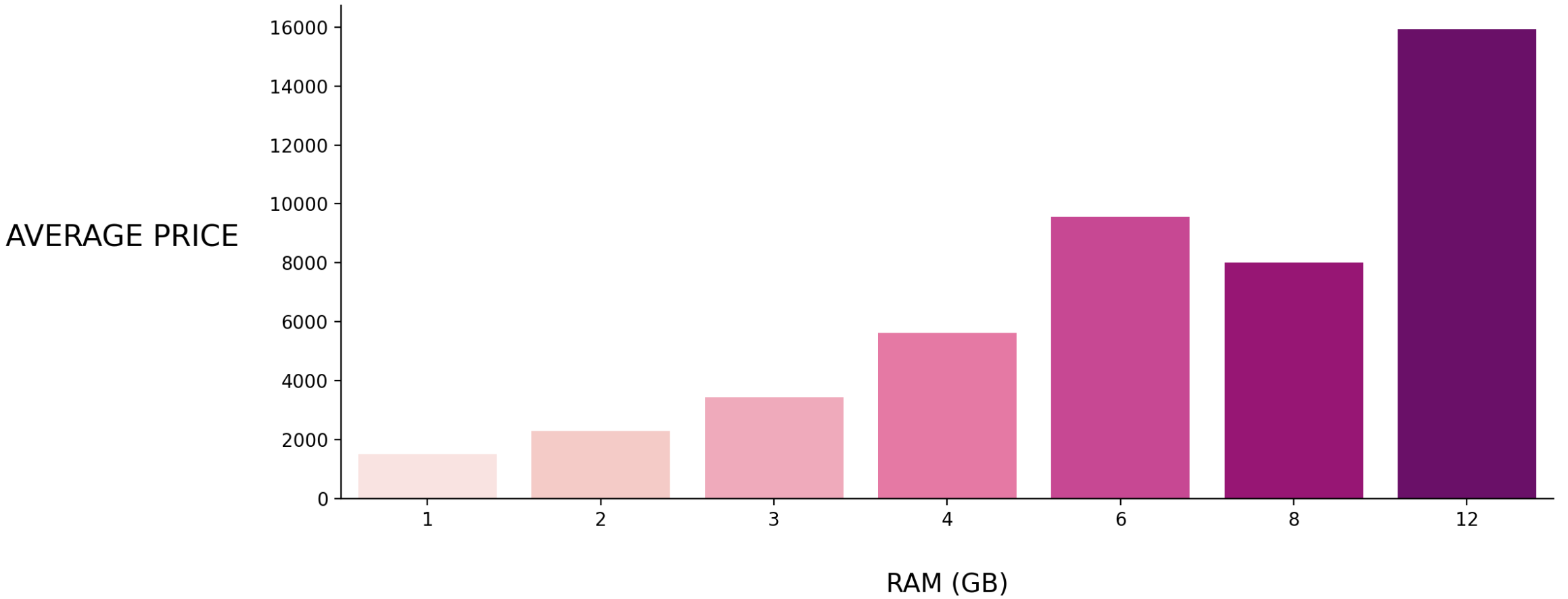
EDA - 3



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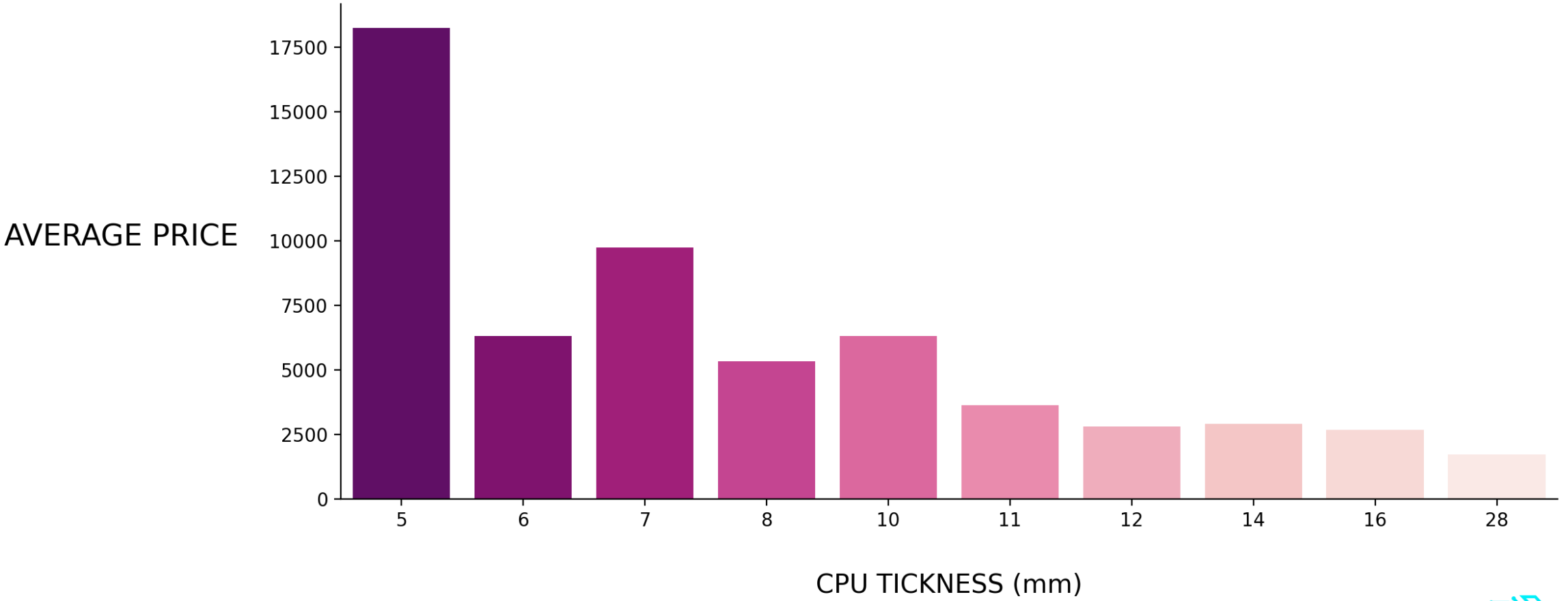
EDA – 4



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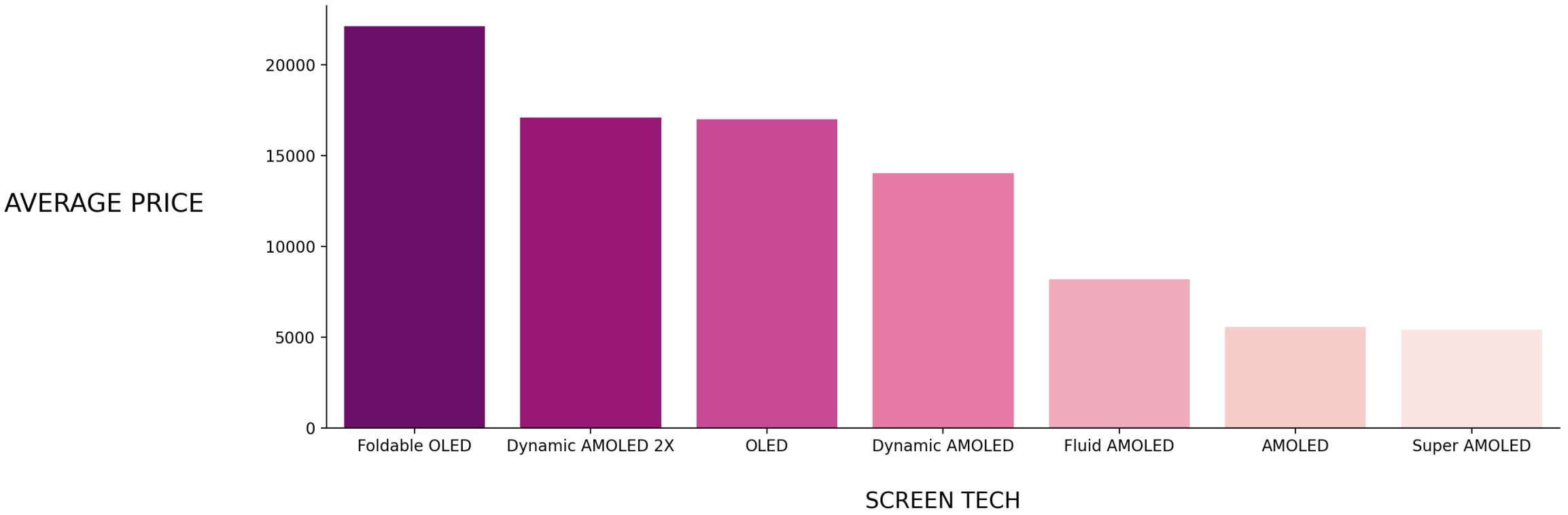
EDA – 5



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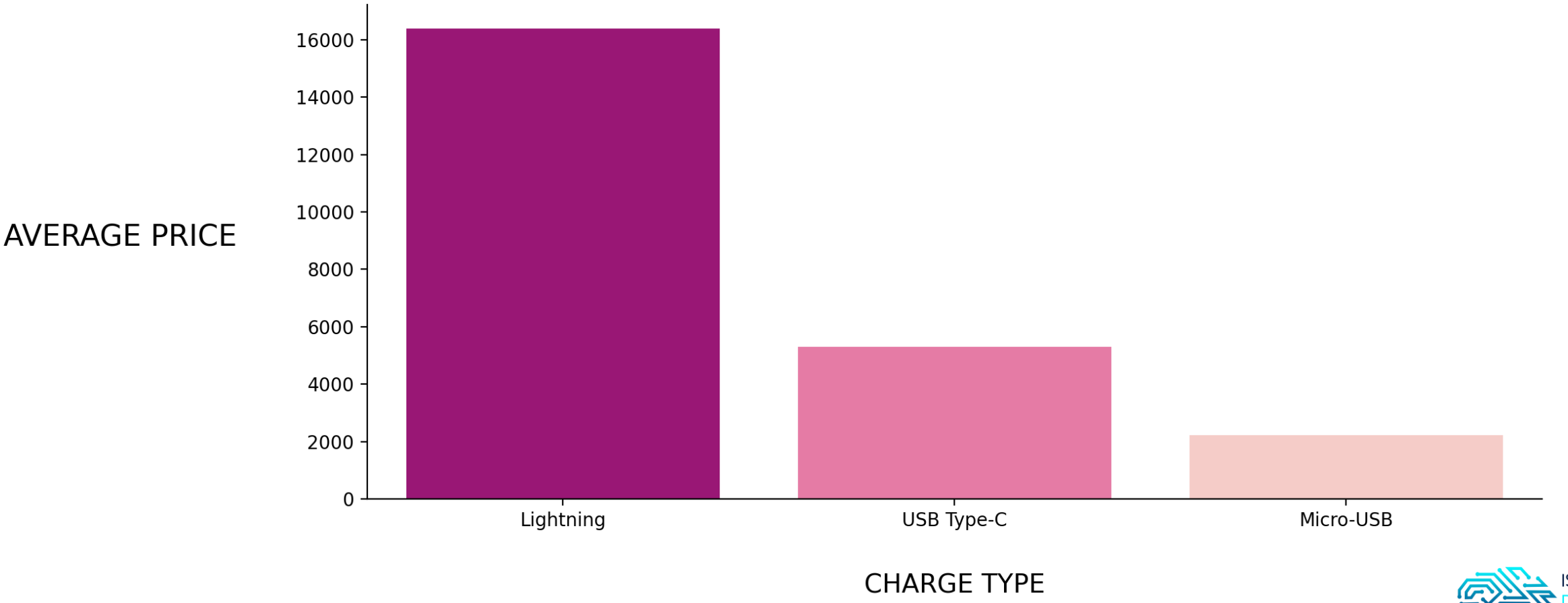
EDA – 6



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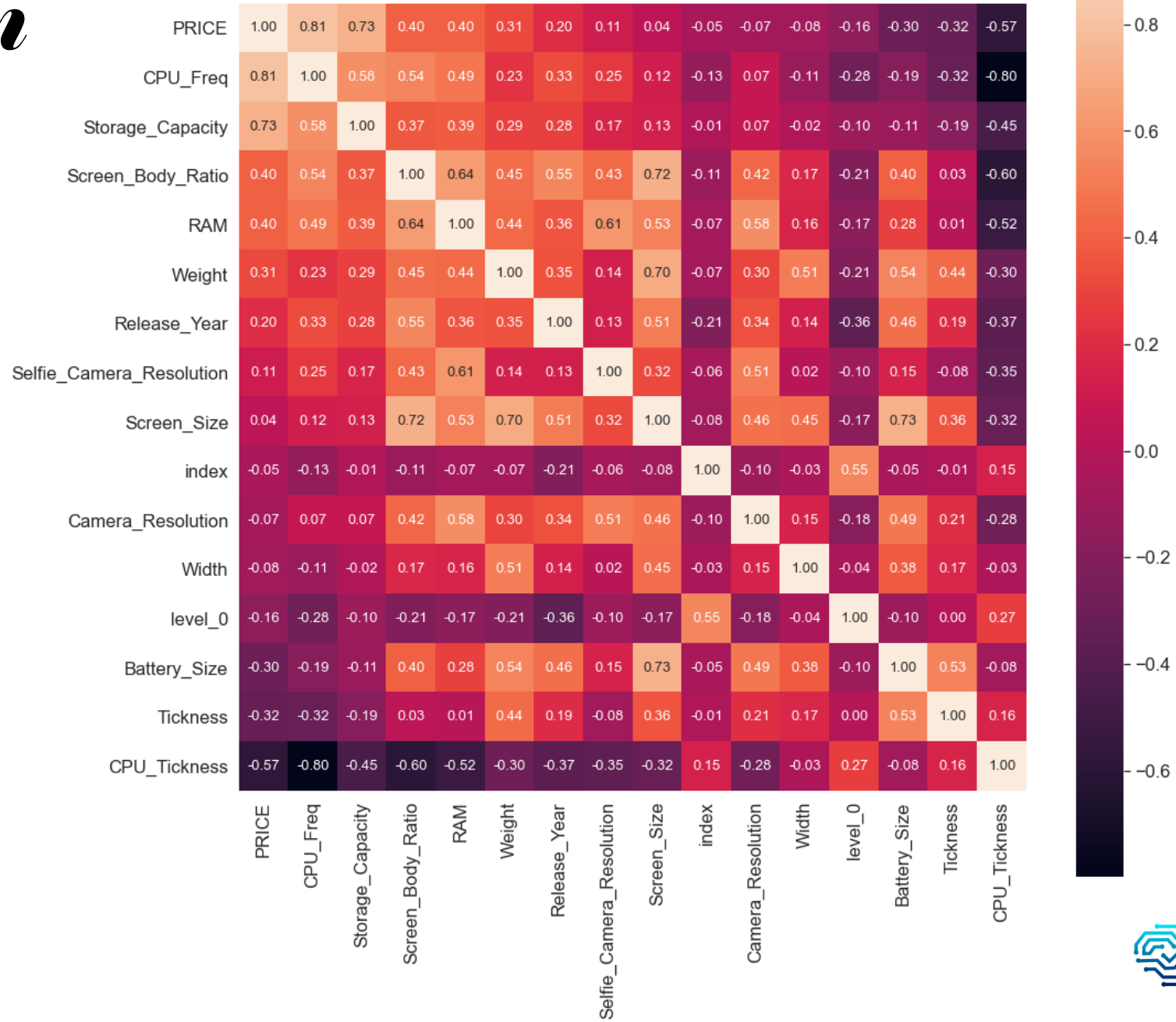
Correlation Heatmap



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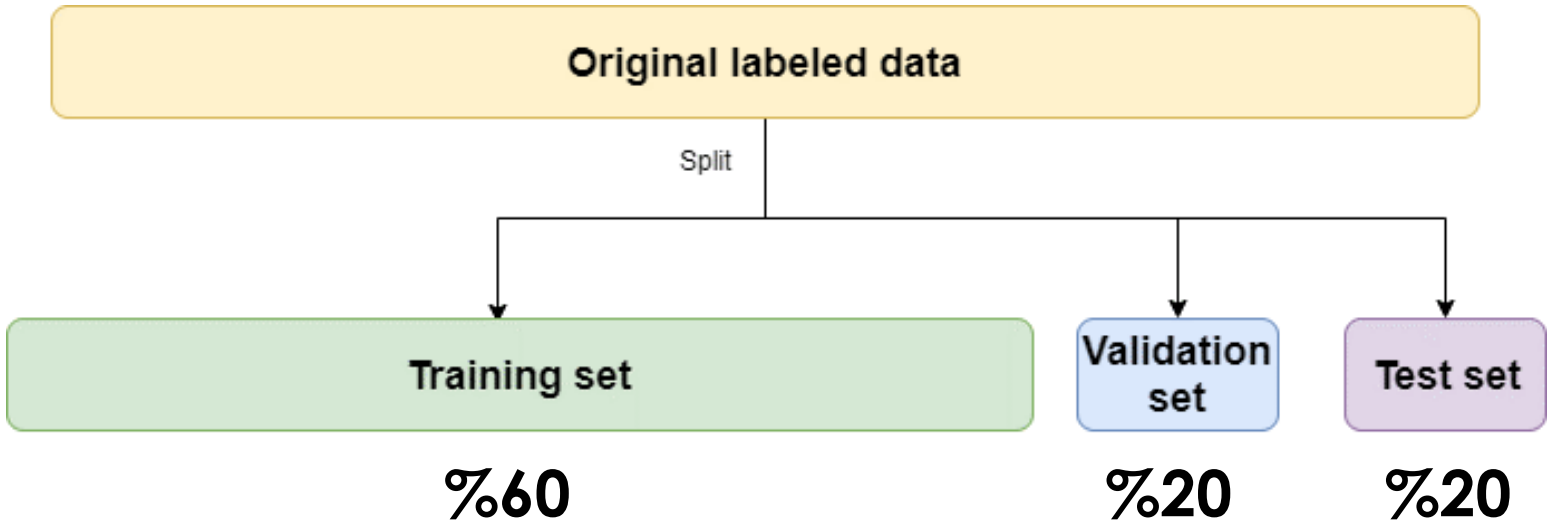
Data Modeling & Feature Selection

- **Sorting** dataset **by product release year** for testing built model with the most up-to-date data.
- One-Hot Encoded Features
- **Screen_Tech** , **CPU_Model** , **GPU_Model** , **Operating_System** , **Charge_Type**



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Model Prediction Test Results

Model Algorithm	R2-Score (%60 Train)	R2-Score (%80 Train)	MSE (%60 Train)	MSE (%80 Train)	10-Fold Cross Validation
Linear Regression	0.923	0.863	5461971	9759771	0.917
Ridge Regression	**0.941**	**0.954**	**4206589**	**3261140**	**0.950**
Lasso Regression	0.942	0.950	4757696	3565501	0.948
Elasticnet Regression	0.825	0.849	12468972	10791699	0.821

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Thank you !

‘‘ Ne kadar zor,
işte bu kadar zor ! ’’

Zekeriya Beşiroğlu

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