



# Predict Global Sense of Video Games





# Introduction

**IMDb** is an online database of information related to video games, movies, television series, Etc...

**IMDb**







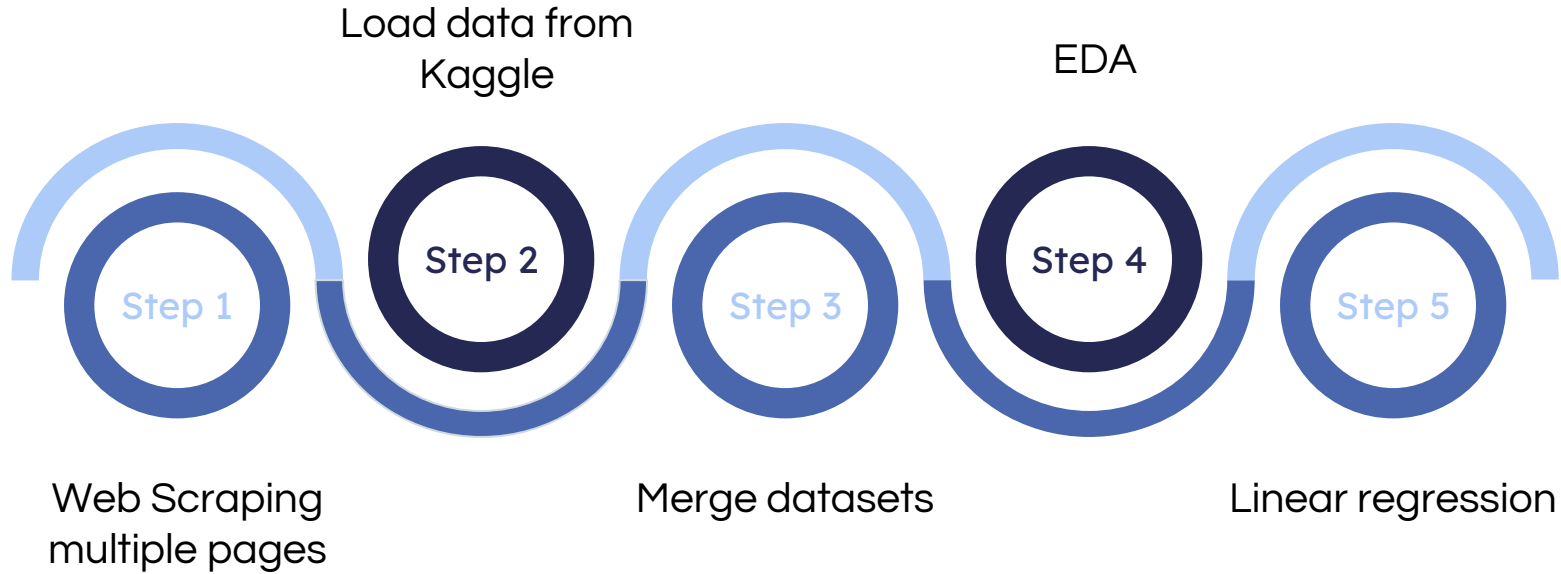
# Objective

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The goal of this project is to predict global sales of the video games using linear regression model based on features of the data from [IMDb](#) website and [Kaggle](#).



# WorkFlow



# Data Discreption

We scrap 10 pages from [IMDb](#) then marge it with another dataset from [Kaggle](#) after that we got 658 rows and 7 columns .

## Data :

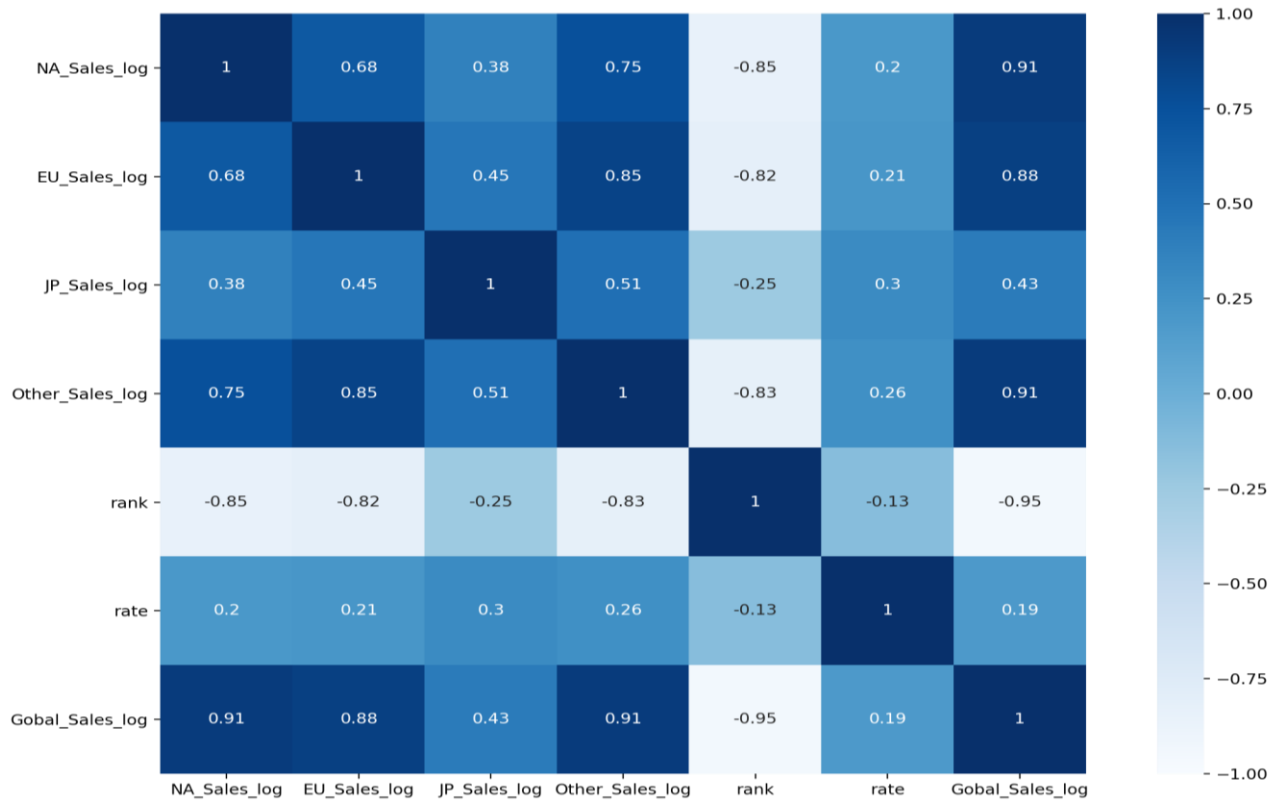
### ➤ Features:

- rate - Number of rate.
- Rank - Ranking of overall sales.
- NA\_Sales - Sales in North America (in millions).
- EU\_Sales - Sales in Europe (in millions).
- JP\_Sales - Sales in Japan (in millions).
- Other\_Sales – Sales in the rest of the world (in millions).

### ➤ Target:

- Global\_Sales - Total worldwide sales.

# EDA





# Linear Regression

# Features Engineering

The features engineering that we used is data transform using Logarithmic transformation we use it to make the data more normalized.

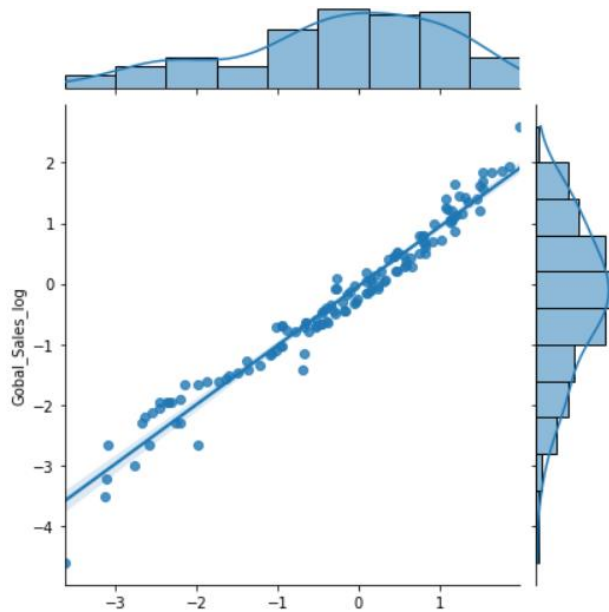




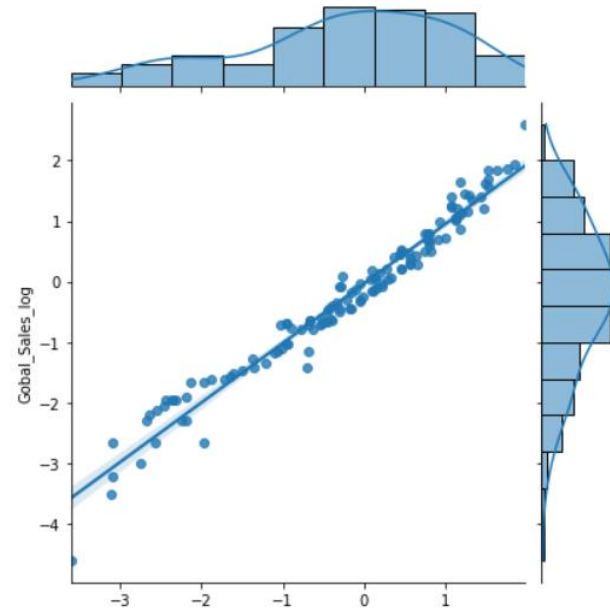
# experiments

	Baseline model	Standard Scale model	MinMax Scale model	Polynomial model
Train	0.967	0.967	0.967	0.997
validation	0.973	0.973	0.973	0.997

# Models

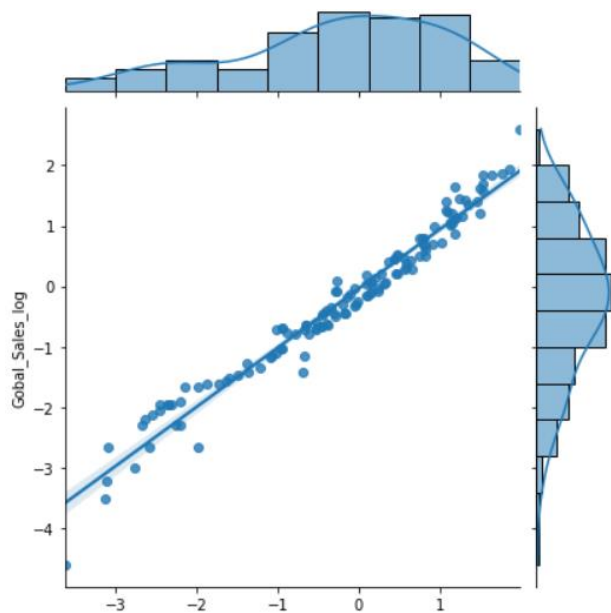


Baseline model

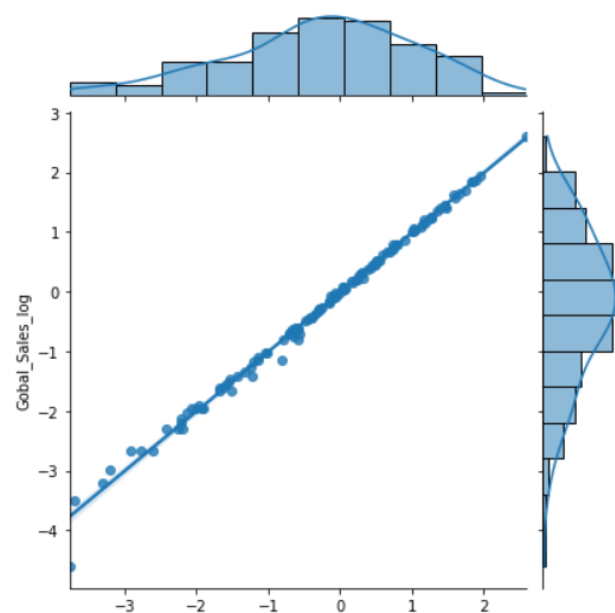


Standard Scale model

# Models



MinMax Scale model



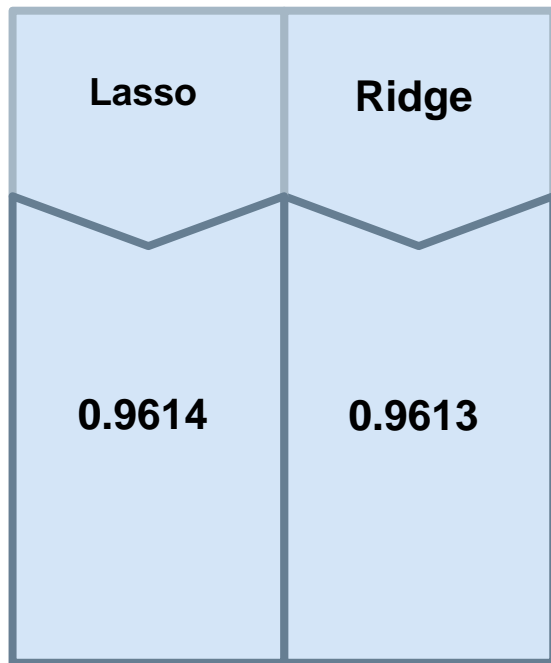
Polynomial model

# Test Model (Unseen data)

After we do experiment, we noticed the best experiment from  $r^2$  results is polynomial model we got  $r^2 = 0.99$  which mean the model well trained on the data .



# Lasso & Ridge



# Conclusion

At the end from R-Squared Test results, we can assume that the best model is polynomial model because they have the highest  $r^2$  in both test and train



**Thank you**