



Predicting Product Popularity

With Amazon dataset

BrainStation Capstone

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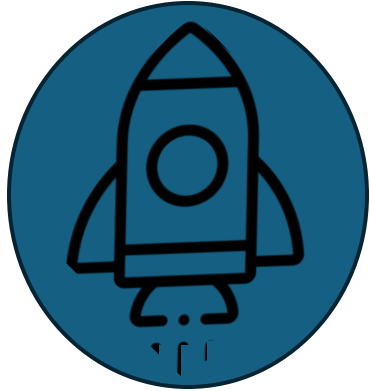
THE PROBLEM(ver1)

What can data science and machine learning tell us about predicting product reception and customer sentiment in e-commerce?

- Product ratings impact inventory planning, pricing, and marketing strategies.
- Traditional methods rely on post-launch sales data, leading to delayed insights.
- Rich metadata (e.g., price, category) can help predict product success before launch.
- Can we accurately estimate a product's reception using data-driven approaches?

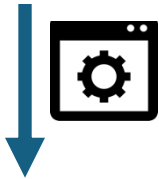
THE PROBLEM (ver2)

What can data science and machine learning tell us about predicting product reception and customer sentiment in e-commerce?

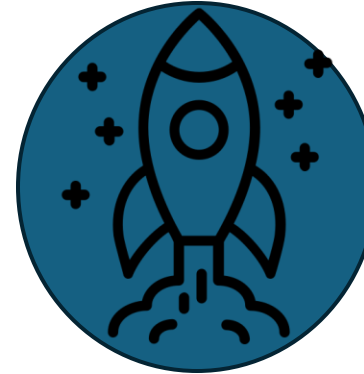


Pre-launch Prediction

Meta-data(e.g. Features/
Price/Category)



Early Insights



Post-launch Feedback

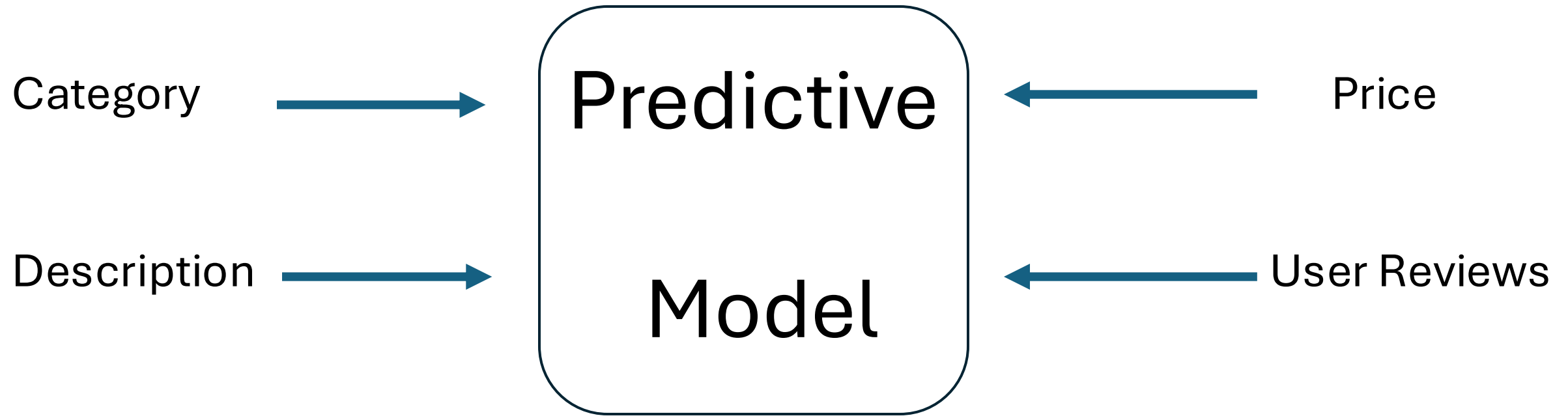
- ✓ Sales data
- ✓ Customer Reviews



Model Validation



THE PROPOSED VISION



Challenges

Review Quality
Variability

Extracting insights from
meta-data

Data Imbalance

THE POTENTIAL IMPACT

Consumers

- ✓ Better purchasing decisions
- ✓ Fewer Returns

Retailers

- ✓ Optimized Inventory
- ✓ Refined Marketing

E-Commerce Platform

- ✓ Enhanced Trust
- ✓ Higher Engagement

THE AMAZON DATASET

Main Category:
Handmade Items

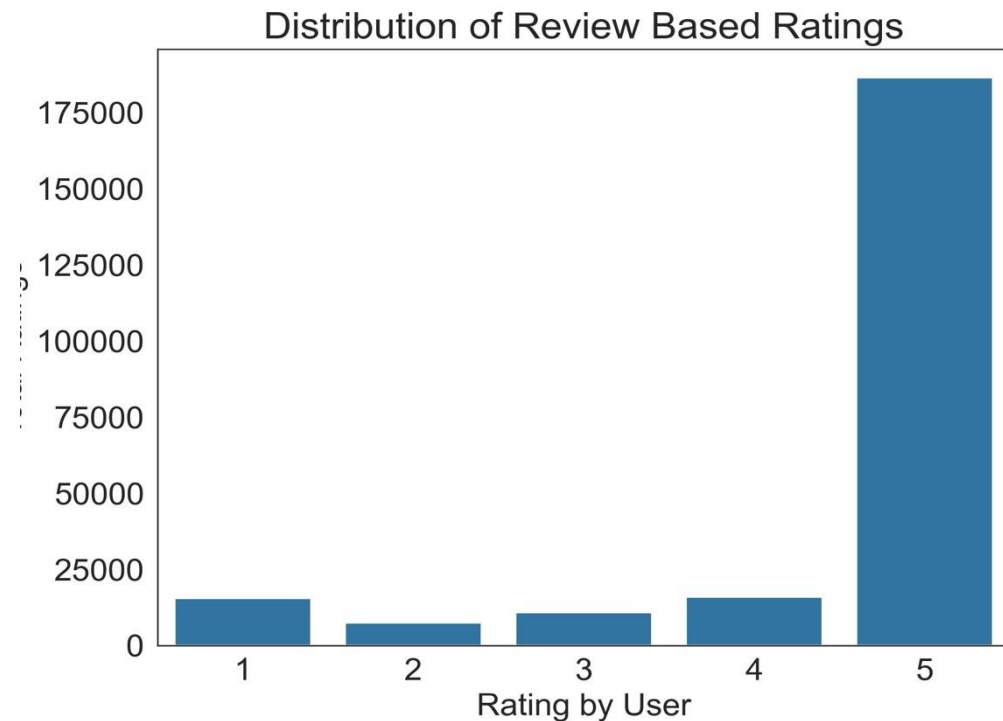
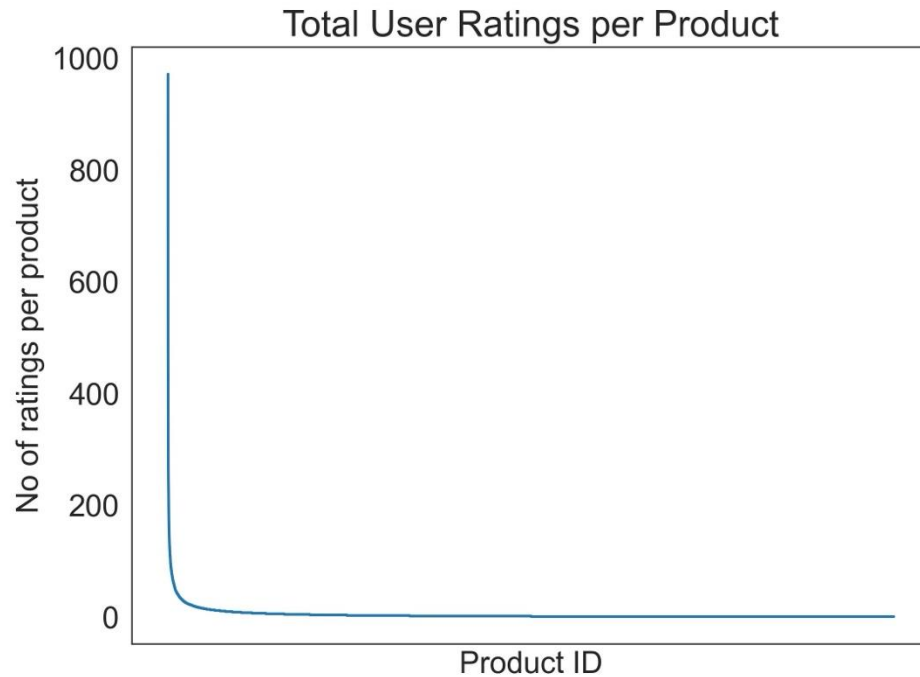
Meta Data

- 164k products
- 500 Hierarchical product categories



Review Data

- 664k reviews



KEY INSIGHTS

Main Category:
Handmade Items

NEXT STEPS