Predictive Spending

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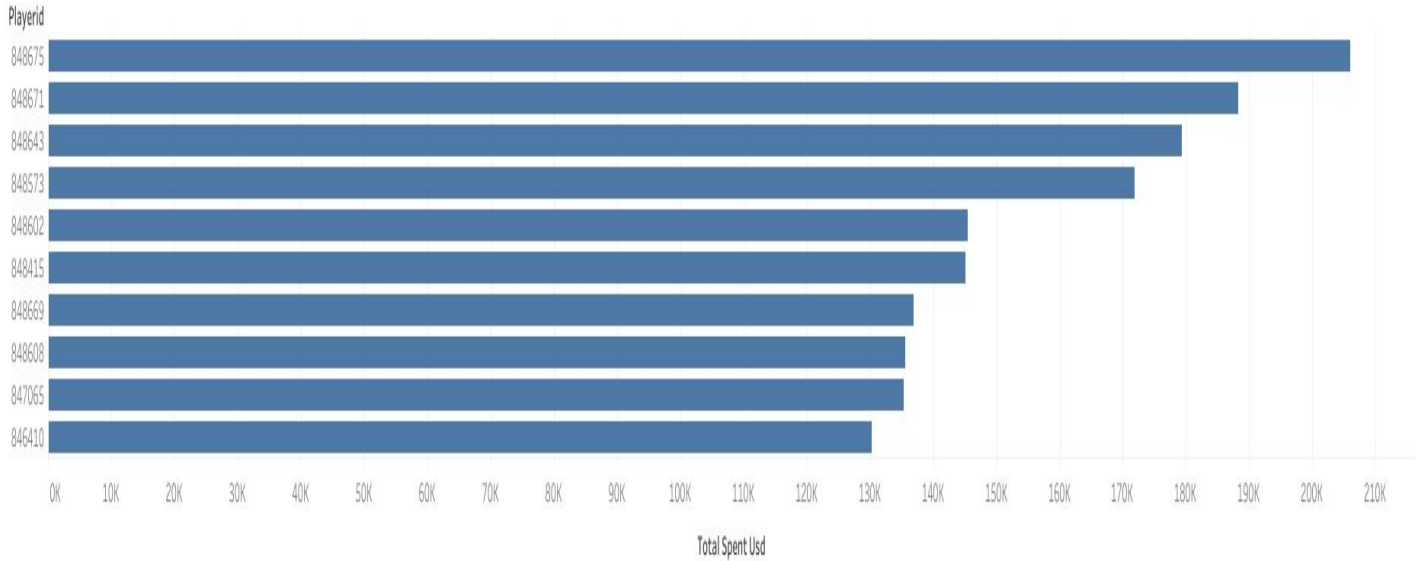
Hello everyone, my name is Carson Jarosz, and today I'll be presenting my capstone project on predicting user spending on gaming platforms like Steam and Xbox.

The gaming industry generates billions of dollars annually, and understanding user spending behavior can help developers and platforms optimize their offerings. My project focuses on predicting future spending using past purchase data and machine learning models.

During EDA, I examined spending distributions, missing values, and key statistics. One key finding was that a small group of users accounts for a significant portion of the total revenue. Here is a bar chart showing the top 10 spending users from my Tableau dashboard.

Top 10 Players by spending



To build an effective prediction model, I engineered features such as the number of games owned and the total amount spent. I trained models like Random Forest and Gradient Boosting to predict future spending.

I evaluated the models using Mean Absolute Error (MAE) and Root Mean Squared Error (RMSE). The Random Forest model performed the best, with a lower RMSE, indicating accurate predictions.

Some challenges I faced included handling missing data and tuning the model for better accuracy. Through this project, I learned a lot about data cleaning, feature engineering, and visualization.

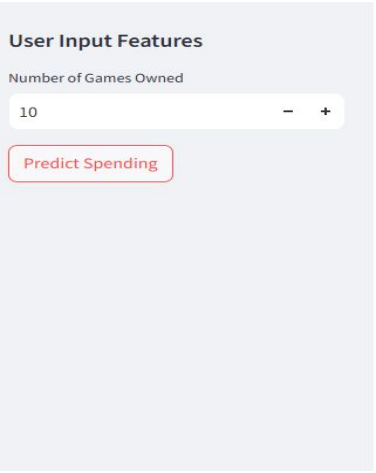
In conclusion, predicting user spending can provide valuable insights for gaming companies. Moving forward, I plan to refine my model and incorporate additional features for better accuracy. Thank you for listening!

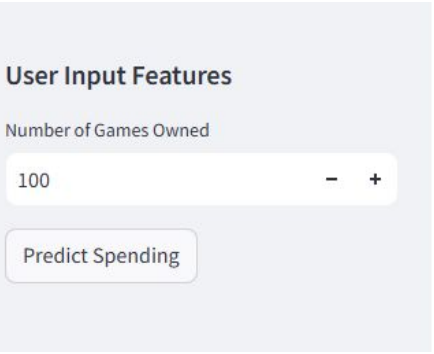
Tableau

https://public.tableau.com/app/profile/carson.jarosz/viz/CapstonBarChart/Sheet2?publish=yes

https://public.tableau.com/app/profile/carson.jarosz/viz/CapstonBarChart/Sheet1?publish=yes

Streamlit


User Input Features
Number of Games Owned
10
Predict Spending


User Input Features
Number of Games Owned
100
Predict Spending


Steam Spending Predictor
Estimated Spending: $107.12


Steam Spending Predictor
Estimated Spending: $1,173.93