Exploring Video Game Recommendation Techniques

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Background

- Extensive research done in movie recommendation, not as much in video games
- Video game industry worth $22.41 billion
- Average family owns at least one console

Approach

- Scrape 1000 user reviews of games using GiantBomb API for preliminary dataset
- Scrape game metadata for 14000 games from IGN (rating, category, console)
- Random forest classifier on user review description to predict rating as baseline
- Explore item-item and user-user collaborative filtering and feature engineering
- Try to predict enjoyment for unseen video games (time spent playing, rating given, number of trophies received in game)

Random Forest Classifier

- Effective in dealing with high-dimensional data
- Utilizes framework for more advanced machine learning algorithms and sets up pipeline
- Vectorize descriptions into tf-idk matrix using numpy, split dataset into train and test sets
- 0.48 accuracy in predicting using scikit-learn compared to 0.2 from randomly guessing 1 of 5 ratings