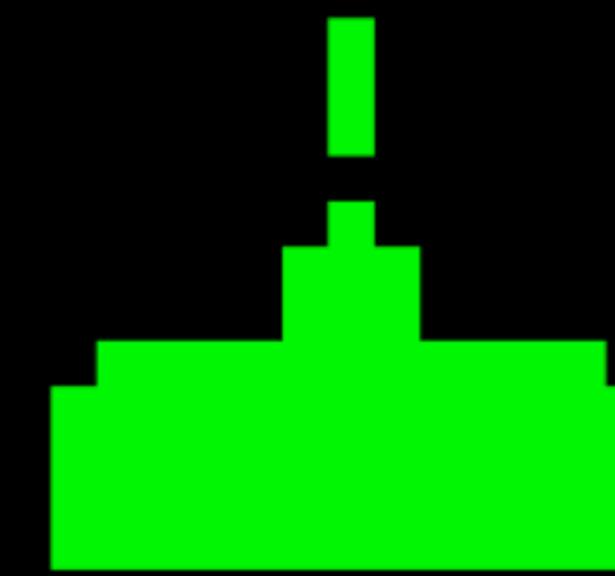
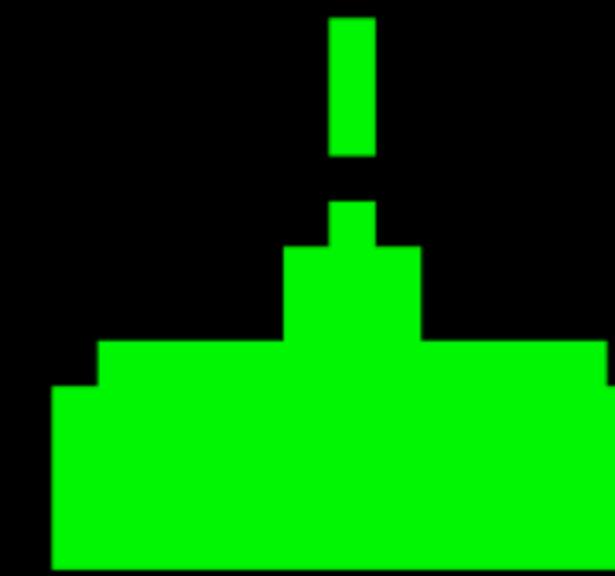
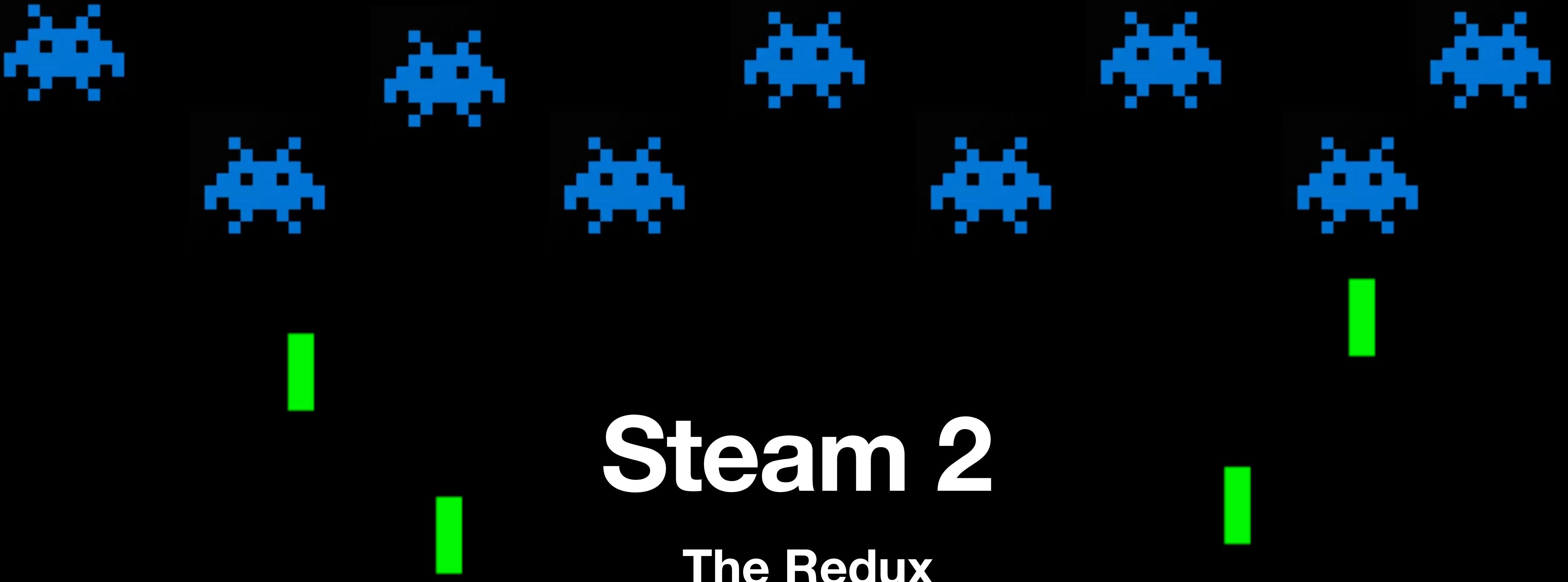


# Steam Game Store Analysis





# Steam 2

## The Redux

Michael Harnett  
6/25/21

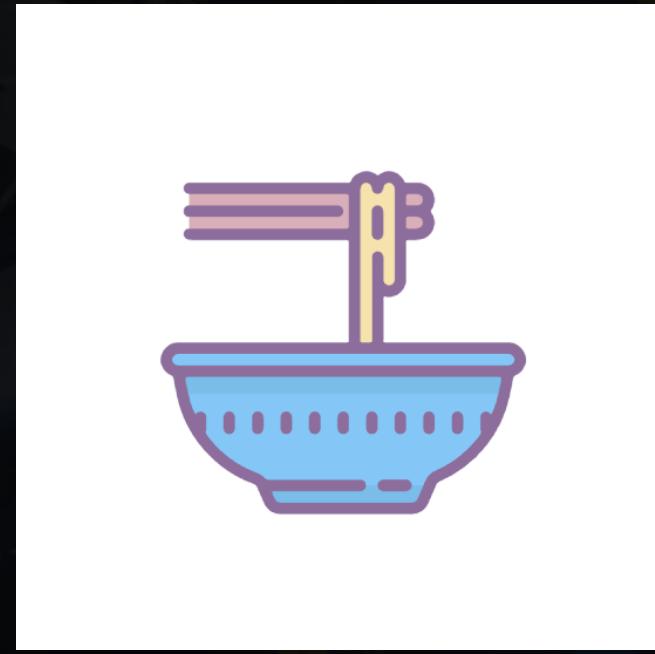
Metis NLP and Unsupervised Machine Learning Module

# Opportunity

By analyzing the reviews left for top-rated games, developers can learn the driving forces behind a game's success.

In addition to greater insight, Steam can use the extracted topics to recommend a wider variety of games to its users.

# Data



- A combination of Selenium and Beautiful Soup was used to create a list of the top 30 games for each genre, and their game ID



STEAMWORKS™

- The list of IDs were then used to retrieve the top 100 reviews for each game from the SteamWorks API

# Cleaning and Pre-Processing

- Reviews have html formatting, had to account for a lot of extra characters
- Steam is also somewhat of a social media platform
- Answer: lemmatize, regex, no words under 4 letters

'Just a few years ago all the cheater's capabilities was spawning UFOs, changing weather, caging every player in session and other "non-harmful" annoying stuff. But today I've met cheater chasing me across [ul]private[/u] sessions and even solo heist.\nIt's getting worse and worse with cheaters situation in GTA Online and Rockstar did nothing useful to fix it. There's known information about cheaters extracting your IP via game for DDoS attacks and even finding your location.\nThis shit is not fun anymore, it's straight up terrifying and dangerous.\n[i]GTA Online has to be abandoned and never be played again.[/i] I personally don't want to launch it ever again.\n\nOh, the Story Mode (singleplayer) of this game is cool. Worth buying\n\n\n\nR eview update\*\n\nI think I should mention few things:\nYes, Online is fun and interesting\nYes, it's very unlikely that you meet a cheater chasing you, extracting your location, overheating your computer or blaming you in cheating which will lead to your account banning\nYes, if there was no such dangerous cheaters in Online, I would definitely recommend buying and playing it\n\nBut your luck may end one day and you will meet a cheater making something from above to you. Before buying the game or playing Online part of it – just be aware of what can happen, don't let it be a surprise for you'

'BURN THE HERETIC.\nKILL THE MUTANT.\nPURGE THE UNCLEAN.\nIT IS BETTER DIE FOR EMPEROR THAN TO LIVE FOR YOUR SELF!'

# Topic Modeling

## TF-IDF with NMF

- Final model has 11 topics, 9 of which are viable

- Gameplay and Experience
- Emotional Response
- Multiplayer
- Graphics and Environment
- Catch-all / Awesome
- Time Filler
- Characters and Plot
- Masterpiece/Impressive
- Learning Curve/Time Investment
- Difficult/Challenging

# Topic Examples

## Characters and Plot



## Emotional Response



## Graphics and Environment



## Multiplayer



## Challenging



# Recommending Games

```
: test_query(['cool characters'])
```

Summer Pockets

The Witcher: Enhanced Edition Director's Cut

To the Moon

BioShock Infinite

To the Moon

```
: test_query(['tedius and annoying'])
```

Darkest Dungeon®

Celeste

Age of Empires II: Definitive Edition

Game Dev Tycoon

Crusader Kings III

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To the Moon

BioShock Infinite

To the Moon

Summer Pockets



From the creators of Angel Beats! and CLANNAD, Key, comes their latest emotional, award-winning journey. Follow protagonist Takahara Hairi as he travels to the secluded island Torishirojima, where he rediscovers what it means to enjoy summer vacation.

RECENT REVIEWS: Very Positive - 100% of the 18 user r...

ALL REVIEWS: Overwhelmingly Positive - 98% of th...

RELEASE DATE: Jun 29, 2018

DEVELOPER:

VisualArts/Key

PUBLISHER:

VisualArts

Popular user-defined tags for this product:

Adventure

Casual

Visual Novel

Emotional

Anime

Great Soundtrack

Simulation

Story Rich

Nudity

+

: test\_query(['tedius and annoying'])

Darkest Dungeon®

Celeste

Age of Empires II: Definitive Edition

Game Dev Tycoon

Crusader Kings III

Darkest Dungeon®



Darkest Dungeon is a challenging gothic roguelike turn-based RPG about the psychological stresses of adventuring. Recruit, train, and lead a team of flawed heroes against unimaginable horrors, stress, disease, and the ever-encroaching dark. Can you keep your heroes together when all hope is lost?

RECENT REVIEWS: Very Positive - 92% of the 962 user re...

ALL REVIEWS: Very Positive - 90% of the 82,614 user...

RELEASE DATE: Jan 19, 2016

DEVELOPER:

Red Hook Studios

PUBLISHER:

Red Hook Studios

Popular user-defined tags for this product:

Turn-Based Combat

Dark Fantasy

Dungeon Crawler

RPG

Roguelike

Lovecraftian

Difficult

Turn-Based

+

# Recommending Games

: test\_query(['cool characters'])

Summer Pockets

**Virtual Novel**

The Witcher: Enhanced Edition Director's Cut **RPG**

To the Moon **Indie**

BioShock Infinite **Action**

To the Moon

: test\_query(['tedius and annoying'])

Darkest Dungeon®

Celeste

Age of Empires II: Definitive Edition

Game Dev Tycoon

Crusader Kings III

# Future Work

- Build an interactive app or website that allows others to use the recommendation engine
- Expand the size of the corpus
- Try CorEx to force topics such as:
  - Female lead
  - Zombies

# Thank You

