In [1]:

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import nltk
import re
import warnings
warnings.filterwarnings('ignore')
```

In [2]:

```
df=pd.read_csv(r"C:\Users\jhonn\Downloads\datasets\twitter_training.csv",header=None)
df
```

Out[2]:

	0	1	2	3
0	2401	Borderlands	Positive	im getting on borderlands and i will murder yo...
1	2401	Borderlands	Positive	I am coming to the borders and I will kill you...
2	2401	Borderlands	Positive	im getting on borderlands and i will kill you ...
3	2401	Borderlands	Positive	im coming on borderlands and i will murder you...
4	2401	Borderlands	Positive	im getting on borderlands 2 and i will murder ...
...	...	...	...	...
74677	9200	Nvidia	Positive	Just realized that the Windows partition of my...
74678	9200	Nvidia	Positive	Just realized that my Mac window partition is ...
74679	9200	Nvidia	Positive	Just realized the windows partition of my Mac ...
74680	9200	Nvidia	Positive	Just realized between the windows partition of...
74681	9200	Nvidia	Positive	Just like the windows partition of my Mac is l...

74682 rows × 4 columns

In [3]:

```
df.head()
```

Out[3]:

	0	1	2	3
0	2401	Borderlands	Positive	im getting on borderlands and i will murder yo...
1	2401	Borderlands	Positive	I am coming to the borders and I will kill you...
2	2401	Borderlands	Positive	im getting on borderlands and i will kill you ...
3	2401	Borderlands	Positive	im coming on borderlands and i will murder you...
4	2401	Borderlands	Positive	im getting on borderlands 2 and i will murder ...

In [4]:

```
df.tail()
```

Out[4]:

	0	1	2	3
74677	9200	Nvidia	Positive	Just realized that the Windows partition of my...
74678	9200	Nvidia	Positive	Just realized that my Mac window partition is ...
74679	9200	Nvidia	Positive	Just realized the windows partition of my Mac ...
74680	9200	Nvidia	Positive	Just realized between the windows partition of...
74681	9200	Nvidia	Positive	Just like the windows partition of my Mac is l...

In [5]:

```
df.shape
```

Out[5]:

```
(74682, 4)
```

In [6]:

```
df.dtypes
```

Out[6]:

```
0     int64
1    object
2    object
3    object
dtype: object
```

In [7]:

```
df.isna().sum()
```

Out[7]:

```
0      0
1      0
2      0
3    686
dtype: int64
```

In [8]:

```
df=df.dropna()
df.shape
```

Out[8]:

```
(73996, 4)
```

In [9]:

```
df.duplicated().sum()
```

Out[9]:

```
2340
```

In [10]:

```
df.drop_duplicates(inplace=True)
df.shape
```

Out[10]:

```
(71656, 4)
```

In [11]:

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 71656 entries, 0 to 74681
Data columns (total 4 columns):
 #   Column  Non-Null Count  Dtype 
---  ------  --------------  ----- 
 0   0       71656 non-null  int64 
 1   1       71656 non-null  object
 2   2       71656 non-null  object
 3   3       71656 non-null  object
dtypes: int64(1), object(3)
memory usage: 2.7+ MB
```

In [12]:

```
df.columns = ['ID', 'Game', 'Sentiment', 'Text']
df.head()
```

Out[12]:

	ID	Game	Sentiment	Text
0	2401	Borderlands	Positive	im getting on borderlands and i will murder yo...
1	2401	Borderlands	Positive	I am coming to the borders and I will kill you...
2	2401	Borderlands	Positive	im getting on borderlands and i will kill you ...
3	2401	Borderlands	Positive	im coming on borderlands and i will murder you...
4	2401	Borderlands	Positive	im getting on borderlands 2 and i will murder ...

In [13]:

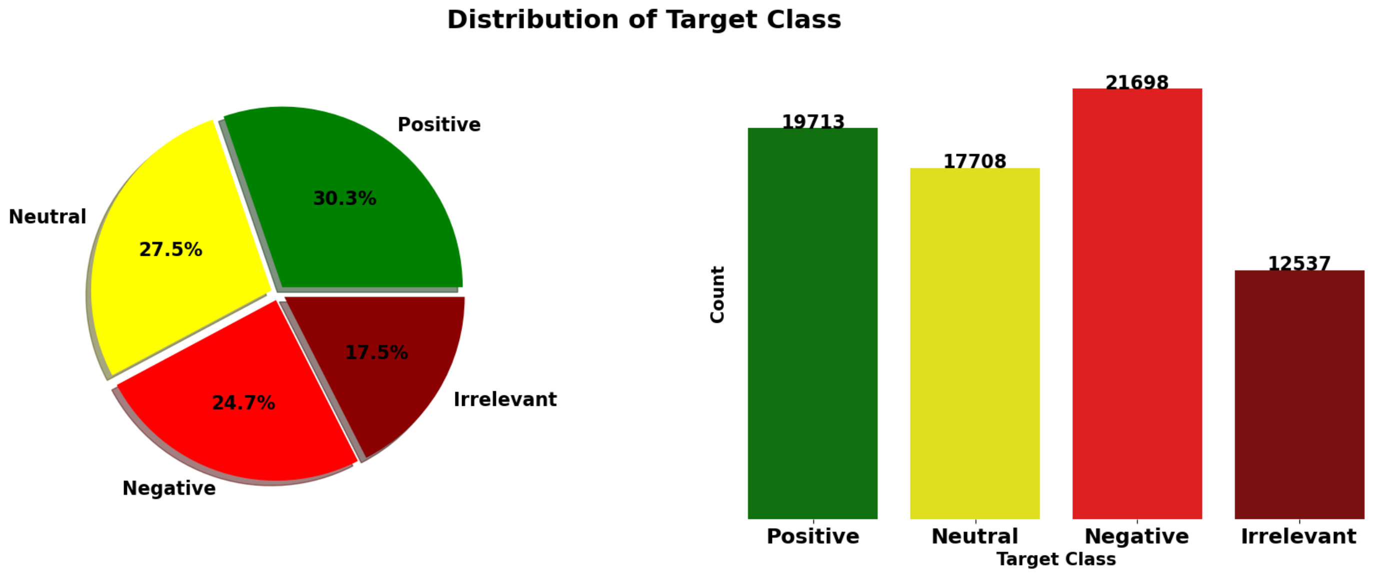
```
df['Sentiment'].unique()
```

Out[13]:

```
array(['Positive', 'Neutral', 'Negative', 'Irrelevant'], dtype=object)
```

In [14]:

```
plt.figure(figsize=(22, 7))
plt.suptitle('Distribution of Target Class',weight='bold',fontsize=22)
label_count = df['Sentiment'].value_counts().values
label = df['Sentiment'].value_counts().index

plt.subplot(1, 2, 1)
explode = (0.04, 0.04,0.04,0.04)
colors = ['green', 'yellow','red','darkred']
labels = ['Positive','Neutral','Negative','Irrelevant']
plt.pie(x=label_count, labels=labels, autopct='%1.1f%%', shadow=True, radius=1, colors=c


plt.subplot(1, 2, 2)
colors = ['green', 'yellow','red','darkred']
ax = sns.countplot(x=df['Sentiment'], palette=colors)
for p in ax.patches:
    ax.annotate(format(p.get_height(), '.0f'), (p.get_x() + p.get_width() / 2., p.get_he
plt.xticks([0, 1,2,3], ['Positive','Neutral','Negative','Irrelevant'], fontsize=18, weig
plt.yticks([])
plt.ylabel('Count',fontsize=15,weight='bold')
plt.xlabel('Target Class',fontsize=15,weight='bold')


sns.despine(left=True, bottom=True)
ax.spines['left'].set_visible(False)
ax.spines['bottom'].set_visible(False)

plt.subplots_adjust(wspace=0.2)
plt.show()
```



In [15]:

```
df.columns
```

Out[15]:

```
Index(['ID', 'Game', 'Sentiment', 'Text'], dtype='object')
```

In [16]:

```
df = df.drop(['ID'], axis=1)
df.head()
```

Out[16]:

	Game	Sentiment	Text
0	Borderlands	Positive	im getting on borderlands and i will murder yo...
1	Borderlands	Positive	I am coming to the borders and I will kill you...
2	Borderlands	Positive	im getting on borderlands and i will kill you ...

3	Borderlands	Positive	im coming on borderlands and i will murder you...
4	Borderlands	Positive	im getting on borderlands 2 and i will murder ...

In [17]:

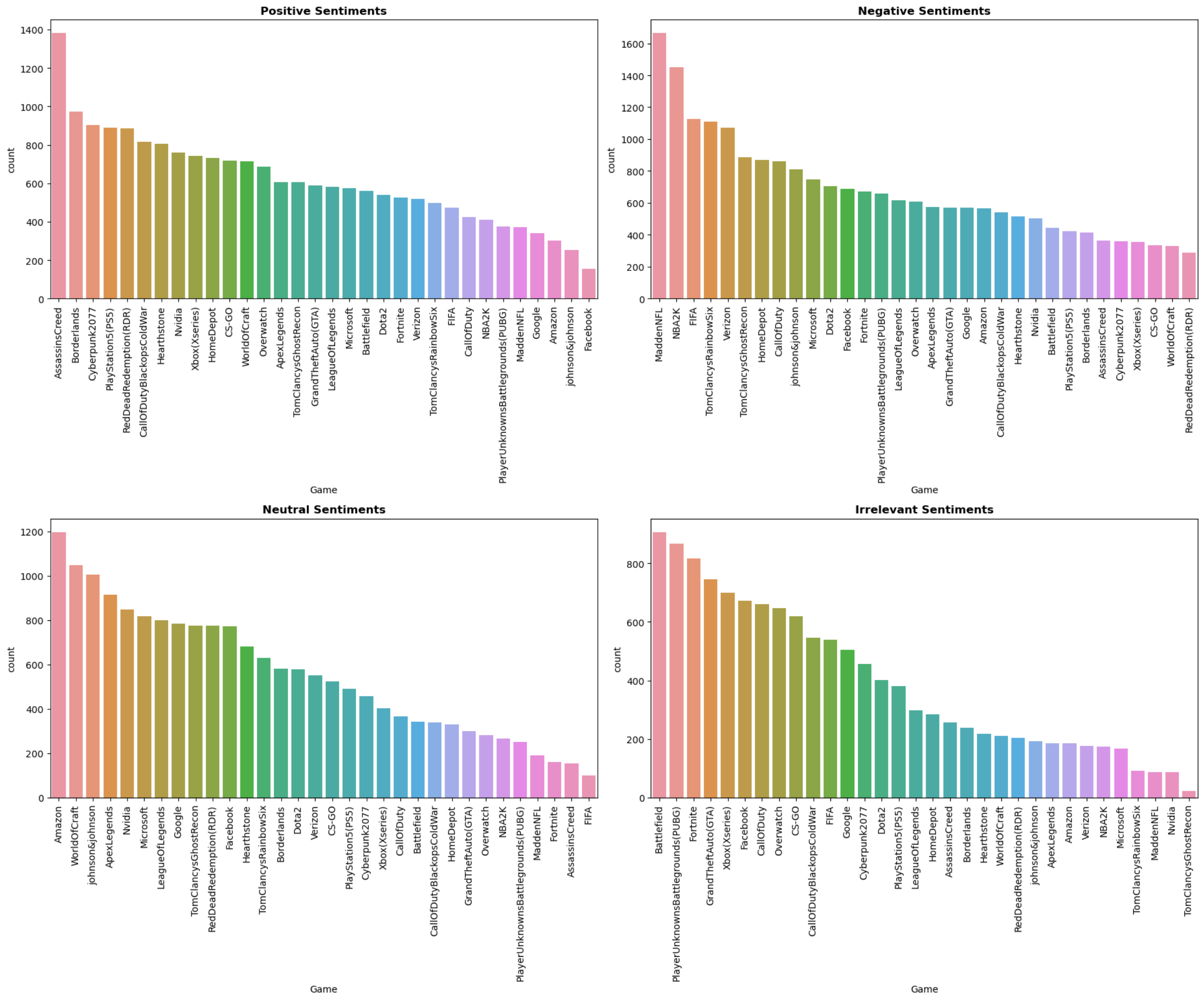
```python
df['Game'].unique()
```

Out[17]:

```
array(['Borderlands', 'CallOfDutyBlackopsColdWar', 'Amazon', 'Overwatch',
       'Xbox(Xseries)', 'NBA2K', 'Dota2', 'PlayStation5(PS5)',
       'WorldOfCraft', 'CS-GO', 'Google', 'AssassinsCreed', 'ApexLegends',
       'LeagueOfLegends', 'Fortnite', 'Microsoft', 'Hearthstone',
       'Battlefield', 'PlayerUnknownsBattlegrounds(PUBG)', 'Verizon',
       'HomeDepot', 'FIFA', 'RedDeadRedemption(RDR)', 'CallOfDuty',
       'TomClancysRainbowSix', 'Facebook', 'GrandTheftAuto(GTA)',
       'MaddenNFL', 'johnson&johnson', 'Cyberpunk2077',
       'TomClancysGhostRecon', 'Nvidia'], dtype=object)
```

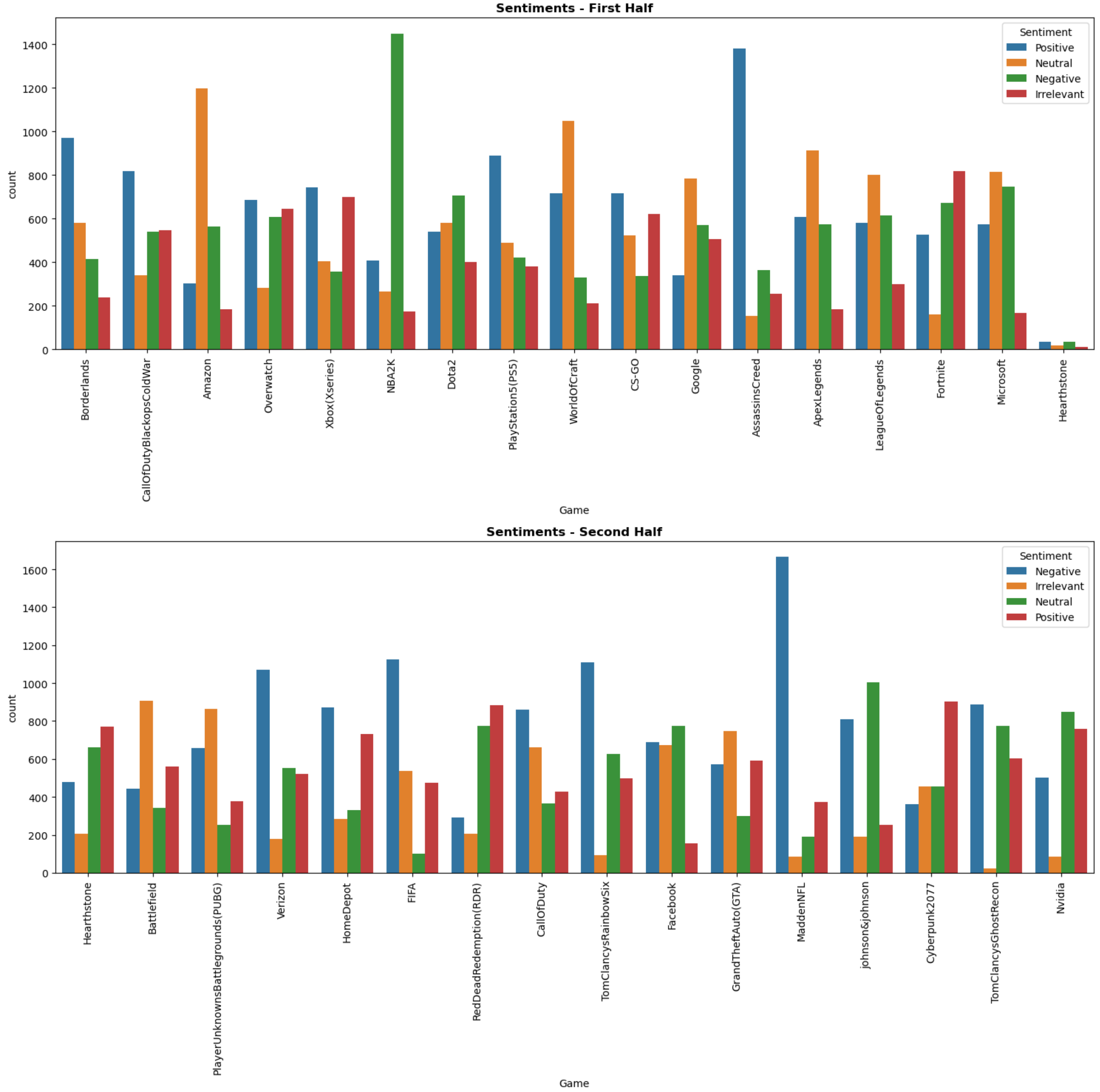
In [18]:

```python
import matplotlib.pyplot as plt
import seaborn as sns

plt.figure(figsize=(18, 15))
sentiments = ['Positive', 'Negative', 'Neutral', 'Irrelevant']

for i, sentiment in enumerate(sentiments, 1):
    plt.subplot(2, 2, i)
    sns.countplot(x='Game', data=df[df['Sentiment'] == sentiment],
                  order=df[df['Sentiment'] == sentiment]['Game'].value_counts().index)
    plt.title(f'{sentiment} Sentiments',weight='bold')   # Proper indentation
    plt.xticks(rotation=90)

plt.tight_layout()
plt.show()
```



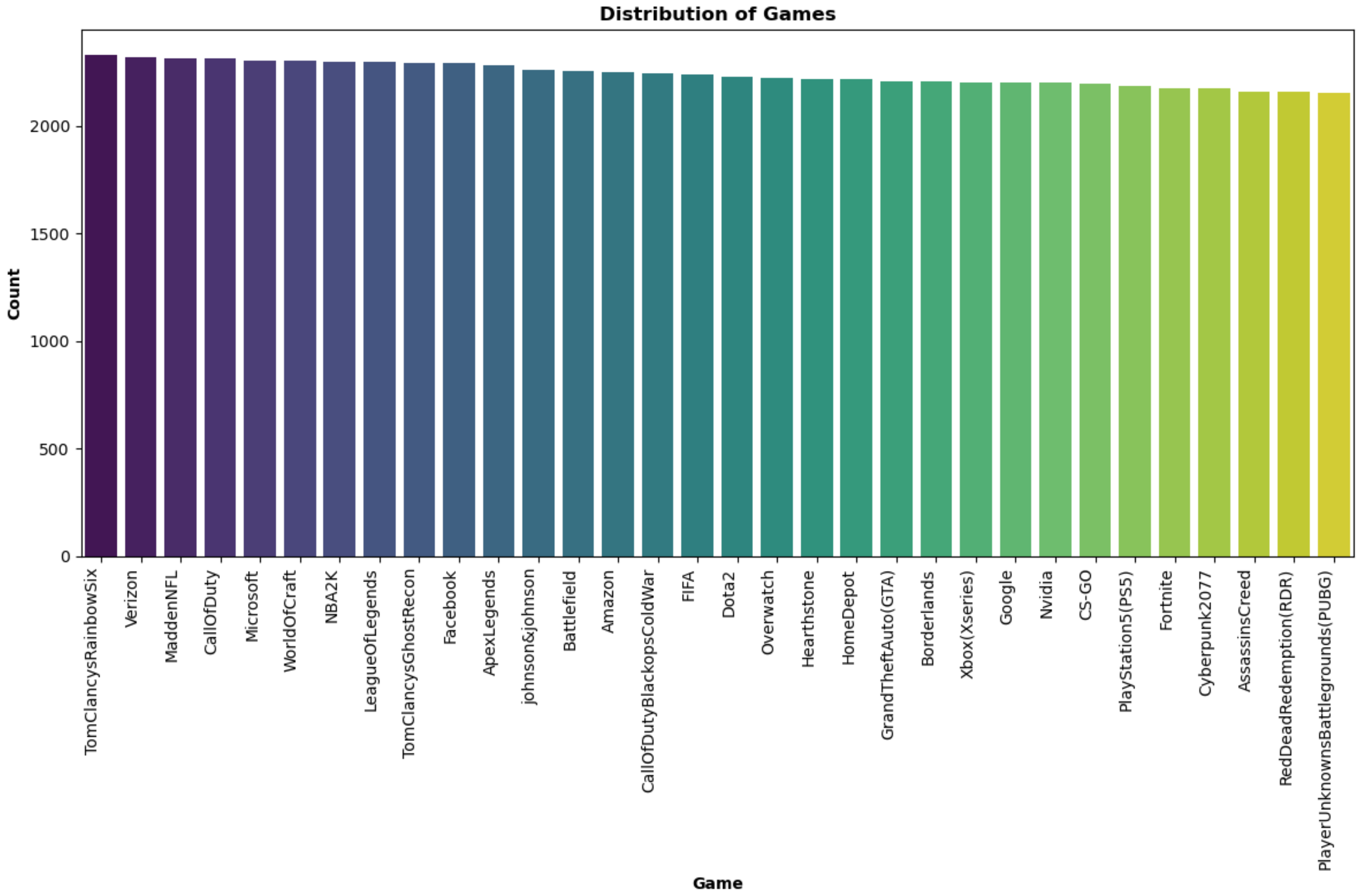
In [19]:

```python
import matplotlib.pyplot as plt
import seaborn as sns

plt.figure(figsize=(15, 15))
midpoint = len(df) // 2

plt.subplot(2, 1, 1)  # Two rows, one column, first plot
sns.countplot(x='Game', hue='Sentiment', data=df.iloc[:midpoint])
plt.title('Sentiments - First Half',weight='bold')
plt.xticks(rotation=90)

plt.subplot(2, 1, 2)  # Two rows, one column, second plot
sns.countplot(x='Game', hue='Sentiment', data=df.iloc[midpoint:])
plt.title('Sentiments - Second Half',weight='bold')
plt.xticks(rotation=90)

plt.tight_layout()
plt.show()
```



In [20]:

```
import matplotlib.pyplot as plt
import seaborn as sns

plt.figure(figsize=(12, 8))
sns.countplot(x='Game', data=df, order=df['Game'].value_counts().index, palette='viridis

plt.title('Distribution of Games',weight='bold')
plt.xlabel('Game',weight='bold')
plt.ylabel('Count',weight='bold')
plt.xticks(rotation=90, ha='right')  # Rotate x-axis labels for better readability

plt.tight_layout()
plt.show()
```



In [21]:

```
df.columns
```

Out[21]:

```
Index(['Game', 'Sentiment', 'Text'], dtype='object')
```

In [22]:

```
df.head()
```

Out[22]:

	Game	Sentiment	Text
0	Borderlands	Positive	im getting on borderlands and i will murder yo...
1	Borderlands	Positive	I am coming to the borders and I will kill you...
2	Borderlands	Positive	im getting on borderlands and i will kill you ...
3	Borderlands	Positive	im coming on borderlands and i will murder you...
4	Borderlands	Positive	im getting on borderlands 2 and i will murder ...

In [23]:

```
df['num_of_characters']=df['Text'].apply(len)
df
```

Out[23]:

	Game	Sentiment	Text	num_of_characters
0	Borderlands	Positive	im getting on borderlands and i will murder yo...	53
1	Borderlands	Positive	I am coming to the borders and I will kill you...	51
2	Borderlands	Positive	im getting on borderlands and i will kill you ...	50
3	Borderlands	Positive	im coming on borderlands and i will murder you...	51
4	Borderlands	Positive	im getting on borderlands 2 and i will murder ...	57
...	...	...	...	...
74677	Nvidia	Positive	Just realized that the Windows partition of my...	128

74678	Nvidia	Positive	Just realized that my Mac window partition is ...	117
74679	Nvidia	Positive	Just realized the windows partition of my Mac ...	125
74680	Nvidia	Positive	Just realized between the windows partition of...	159
74681	Nvidia	Positive	Just like the windows partition of my Mac is l...	119

71656 rows × 4 columns

In [24]:

```
df['no_of_words']=df['Text'].apply(lambda x:len(nltk.word_tokenize(x)))
df.head()
```

Out[24]:

	Game	Sentiment	Text	num_of_characters	no_of_words
0	Borderlands	Positive	im getting on borderlands and i will murder yo...	53	11
1	Borderlands	Positive	I am coming to the borders and I will kill you...	51	13
2	Borderlands	Positive	im getting on borderlands and i will kill you ...	50	11
3	Borderlands	Positive	im coming on borderlands and i will murder you...	51	11
4	Borderlands	Positive	im getting on borderlands 2 and i will murder ...	57	13

In [25]:

```
df['no_of_sentence']=df['Text'].apply(lambda x:len(nltk.sent_tokenize(x)))
df.head()
```

Out[25]:

	Game	Sentiment	Text	num_of_characters	no_of_words	no_of_sentence
0	Borderlands	Positive	im getting on borderlands and i will murder yo...	53	11	1
1	Borderlands	Positive	I am coming to the borders and I will kill you...	51	13	1
2	Borderlands	Positive	im getting on borderlands and i will kill you ...	50	11	1
3	Borderlands	Positive	im coming on borderlands and i will murder you...	51	11	1
4	Borderlands	Positive	im getting on borderlands 2 and i will murder ...	57	13	1

In [26]:

```
df.describe()
```

Out[26]:

	num_of_characters	no_of_words	no_of_sentence
count	71656.000000	71656.000000	71656.000000
mean	110.538127	22.959375	1.864519
std	79.409848	17.152354	1.418169
min	1.000000	0.000000	0.000000
25%	49.000000	10.000000	1.000000
50%	93.000000	19.000000	1.000000
75%	155.000000	32.000000	2.000000
max	957.000000	198.000000	25.000000

In [27]:

```
df[df['Sentiment']=='Positive'].describe()
```

Out[27]:

	num_of_characters	no_of_words	no_of_sentence
count	19713.000000	19713.000000	19713.000000
mean	98.289859	20.775478	1.832395
std	77.426941	16.807169	1.404607
min	1.000000	0.000000	0.000000
25%	39.000000	8.000000	1.000000
50%	77.000000	16.000000	1.000000
75%	137.000000	29.000000	2.000000
max	692.000000	198.000000	21.000000

In [28]:

```
df[df['Sentiment']=='Negative'].describe()
```

Out[28]:

	num_of_characters	no_of_words	no_of_sentence
count	21698.000000	21698.000000	21698.000000
mean	113.421790	23.736151	1.790165
std	81.742781	17.381277	1.289315
min	1.000000	0.000000	0.000000
25%	48.000000	10.000000	1.000000
50%	94.000000	19.000000	1.000000
75%	163.000000	34.000000	2.000000
max	727.000000	198.000000	21.000000

In [29]:

```
df[df['Sentiment']=='Neutral'].describe()
```

Out[29]:

	num_of_characters	no_of_words	no_of_sentence
count	17708.000000	17708.000000	17708.000000
mean	119.551841	24.169358	1.958098
std	77.279396	17.030867	1.547919
min	1.000000	0.000000	0.000000
25%	63.000000	12.000000	1.000000
50%	106.000000	20.000000	1.000000
75%	162.000000	33.000000	2.000000
max	957.000000	198.000000	25.000000

In [30]:

```
df[df['Sentiment']=='Irrelevant'].describe()
```

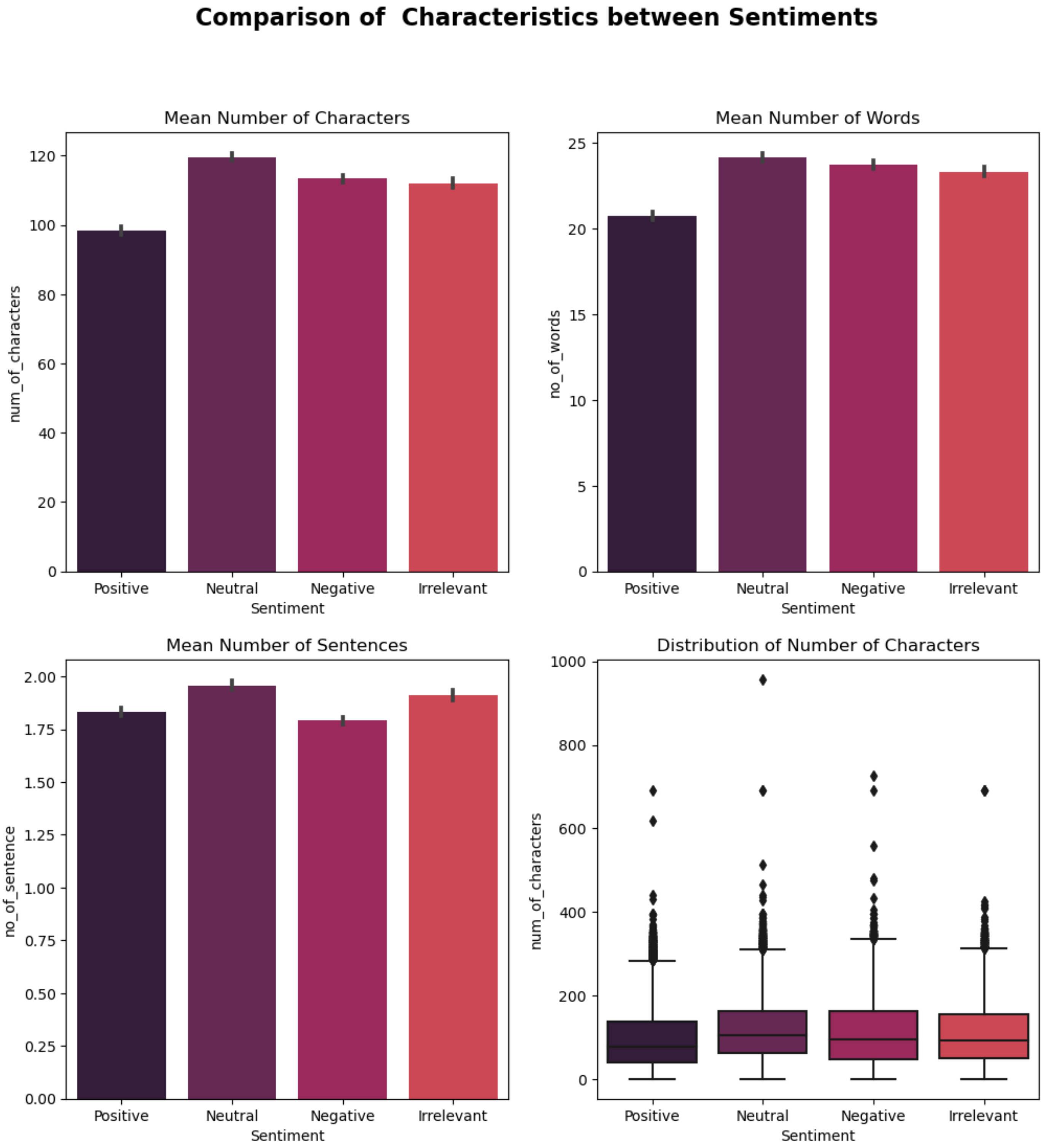
Out[30]:

	num_of_characters	no_of_words	no_of_sentence
count	12537.000000	12537.000000	12537.000000
mean	112.074819	23.339874	1.911542

std	79.055895	17.150282	1.451319
min	1.000000	0.000000	0.000000
25%	51.000000	11.000000	1.000000
50%	93.000000	19.000000	1.000000
75%	156.000000	32.000000	2.000000
max	692.000000	198.000000	25.000000

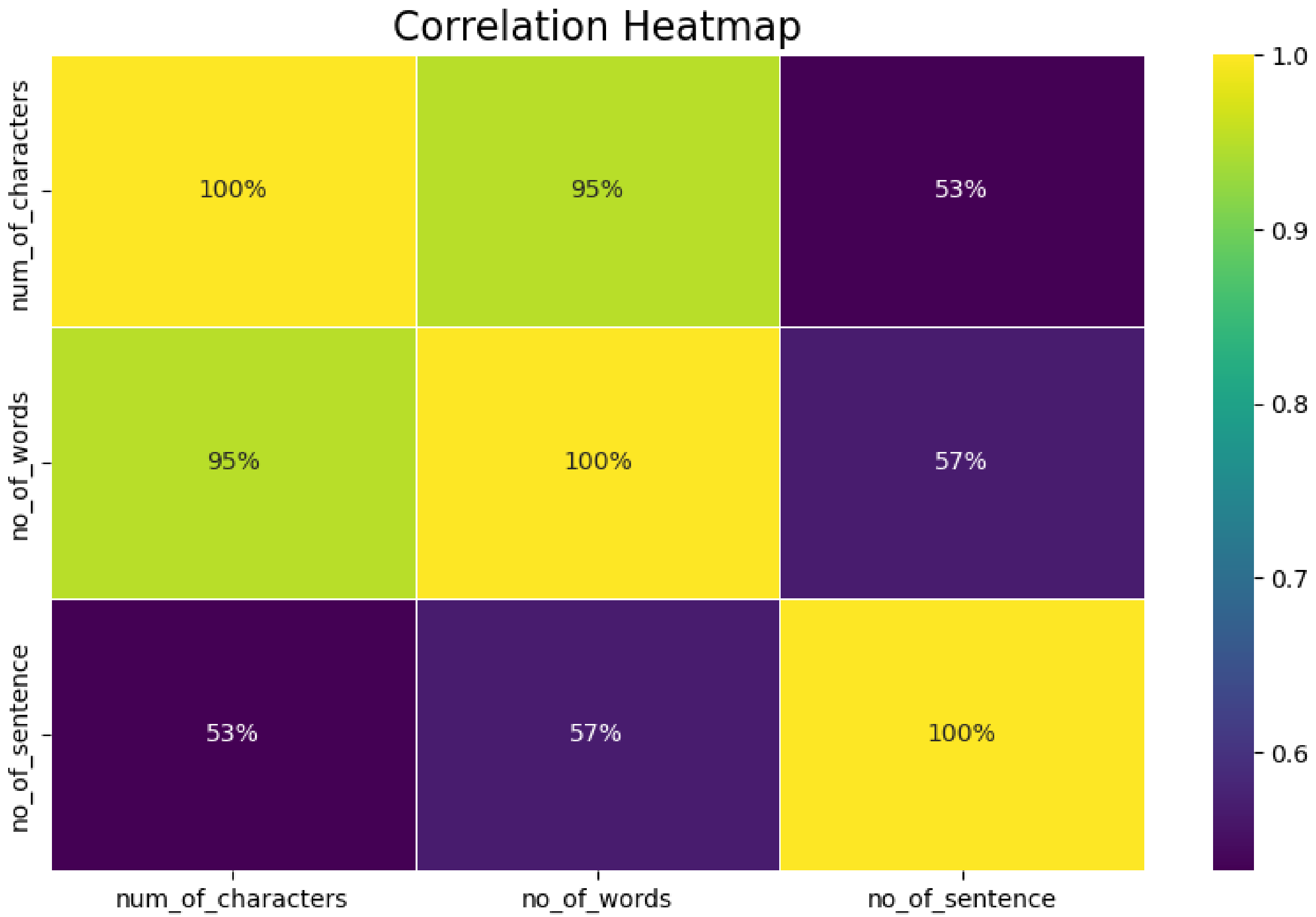
In [31]:

```
sns.set_palette("rocket")
fig, axes = plt.subplots(nrows=2, ncols=2, figsize=(12, 12))

sns.barplot(x='Sentiment', y='num_of_characters', data=df, ax=axes[0, 0])
axes[0, 0].set_title('Mean Number of Characters')

sns.barplot(x='Sentiment', y='no_of_words', data=df, ax=axes[0, 1])
axes[0, 1].set_title('Mean Number of Words')

sns.barplot(x='Sentiment', y='no_of_sentence', data=df, ax=axes[1, 0])
axes[1, 0].set_title('Mean Number of Sentences')

sns.boxplot(x='Sentiment', y='num_of_characters', data=df, ax=axes[1, 1])
axes[1, 1].set_title('Distribution of Number of Characters')

fig.suptitle('Comparison of  Characteristics between Sentiments', fontsize=16,weight='bo
for ax in axes.flatten():
    ax.grid(False)

plt.subplots_adjust(wspace=0.2)
plt.show()
```



In [32]:

```
sns.set_palette("viridis")
corr_matrix = df.corr()

plt.figure(figsize=(10, 6))
sns.heatmap(corr_matrix, annot=True, cmap='viridis', linewidths=.5,fmt=".0%")

plt.title("Correlation Heatmap", fontsize=16)
plt.show()
```



In [33]:

```
import nltk
from nltk.stem.porter import PorterStemmer
from nltk.corpus import stopwords
import string

ps = PorterStemmer()
# nltk.download('stopwords')

def transform_text(text):
    text = text.lower()
    text = nltk.word_tokenize(text)

    y = []

    for i in text:
        if i.isalnum() and i not in stopwords.words('english'):
            y.append(ps.stem(i))

    return " ".join(y)
```

In [34]:

```
df['Text']=df['Text'].apply(transform_text)
df
```

Out[34]:

	Game	Sentiment	Text	num_of_characters	no_of_words	no_of_sentence
0	Borderlands	Positive	im get borderland murder	53	11	1
1	Borderlands	Positive	come border kill	51	13	1
2	Borderlands	Positive	im get borderland kill	50	11	1
3	Borderlands	Positive	im come borderland murder	51	11	1
4	Borderlands	Positive	im get borderland 2 murder	57	13	1

...	...	...	...	...	...	...
74677	Nvidia	Positive	realiz window partit mac like 6 year behind nv...	128	26	1
74678	Nvidia	Positive	realiz mac window partit 6 year behind nvidia ...	117	24	1
74679	Nvidia	Positive	realiz window partit mac 6 year behind nvidia ...	125	27	1
74680	Nvidia	Positive	realiz window partit mac like 6 year behind nv...	159	32	1
74681	Nvidia	Positive	like window partit mac like 6 year behind driv...	119	27	1

71656 rows × 6 columns

In [35]:
```
message=df.Text
message
```

Out[35]:
```
0                                 im get borderland murder
1                                         come border kill
2                                   im get borderland kill
3                                 im come borderland murder
4                               im get borderland 2 murder
                               ...
74677    realiz window partit mac like 6 year behind nv...
74678    realiz mac window partit 6 year behind nvidia ...
74679    realiz window partit mac 6 year behind nvidia ...
74680    realiz window partit mac like 6 year behind nv...
74681    like window partit mac like 6 year behind driv...
Name: Text, Length: 71656, dtype: object
```

In [36]:
```
message=message.str.replace('[^a-zA-Z0-9]+',' ')
message
```

Out[36]:
```
0                                 im get borderland murder
1                                         come border kill
2                                   im get borderland kill
3                                im come borderland murder
4                               im get borderland 2 murder
                               ...
74677    realiz window partit mac like 6 year behind nv...
74678    realiz mac window partit 6 year behind nvidia ...
74679    realiz window partit mac 6 year behind nvidia ...
74680    realiz window partit mac like 6 year behind nv...
74681    like window partit mac like 6 year behind driv...
Name: Text, Length: 71656, dtype: object
```

In [37]:
```
from nltk.tokenize import word_tokenize
message=message.apply(lambda x:' '.join([w for w in word_tokenize(x) if len(w)>=3]))
message
```

Out[37]:
```
0                                    get borderland murder
1                                         come border kill
2                                      get borderland kill
3                                   come borderland murder
4                                    get borderland murder
                               ...
74677    realiz window partit mac like year behind nvid...
74678    realiz mac window partit year behind nvidia dr...
74679    realiz window partit mac year behind nvidia dr...
74680    realiz window partit mac like year behind nvid...
```

```
74681    like window partit mac like year behind driver...
Name: Text, Length: 71656, dtype: object
```

In [38]:

```
df['Transformed_text'] =message
```

In [39]:

```
from wordcloud import WordCloud
import matplotlib.pyplot as plt
wc = WordCloud(
    width=550,
    height=550,
    min_font_size=12,
    background_color='black'
)
```

In [40]:

```
from sklearn.preprocessing import LabelEncoder

# Assuming 'Sentiments' is your target column
label_encoder = LabelEncoder()
df['Sentiments_encoded'] = label_encoder.fit_transform(df['Sentiment'])
```

In [41]:

```
df.head()
```

Out[41]:

	Game	Sentiment	Text	num_of_characters	no_of_words	no_of_sentence	Transformed_text	Sentime
0	Borderlands	Positive	im get borderland murder	53	11	1	get borderland murder	
1	Borderlands	Positive	come border kill	51	13	1	come border kill	
2	Borderlands	Positive	im get borderland kill	50	11	1	get borderland kill	
3	Borderlands	Positive	im come borderland murder	51	11	1	come borderland murder	
4	Borderlands	Positive	im get borderland 2 murder	57	13	1	get borderland murder	

In [42]:

```
df.drop(['Sentiment'],axis=1,inplace=True)
df
```

Out[42]:

	Game	Text	num_of_characters	no_of_words	no_of_sentence	Transformed_text	Sentiments_enc
0	Borderlands	im get borderland murder	53	11	1	get borderland murder	
1	Borderlands	come border kill	51	13	1	come border kill	
2	Borderlands	im get borderland kill	50	11	1	get borderland kill	
3	Borderlands	im come borderland murder	51	11	1	come borderland murder	
4	Borderlands	im get borderland	57	13	1	get borderland murder	

2 murder

...	...	...	...	...	...	...
74677	Nvidia	realiz window partit mac like 6 year behind nv...	128	26	1	realiz window partit mac like year behind nvid...
74678	Nvidia	realiz mac window partit 6 year behind nvidia ...	117	24	1	realiz mac window partit year behind nvidia dr...
74679	Nvidia	realiz window partit mac 6 year behind nvidia ...	125	27	1	realiz window partit mac year behind nvidia dr...
74680	Nvidia	realiz window partit mac like 6 year behind nv...	159	32	1	realiz window partit mac like year behind nvid...
74681	Nvidia	like window partit mac like 6 year behind driv...	119	27	1	like window partit mac like year behind driver...

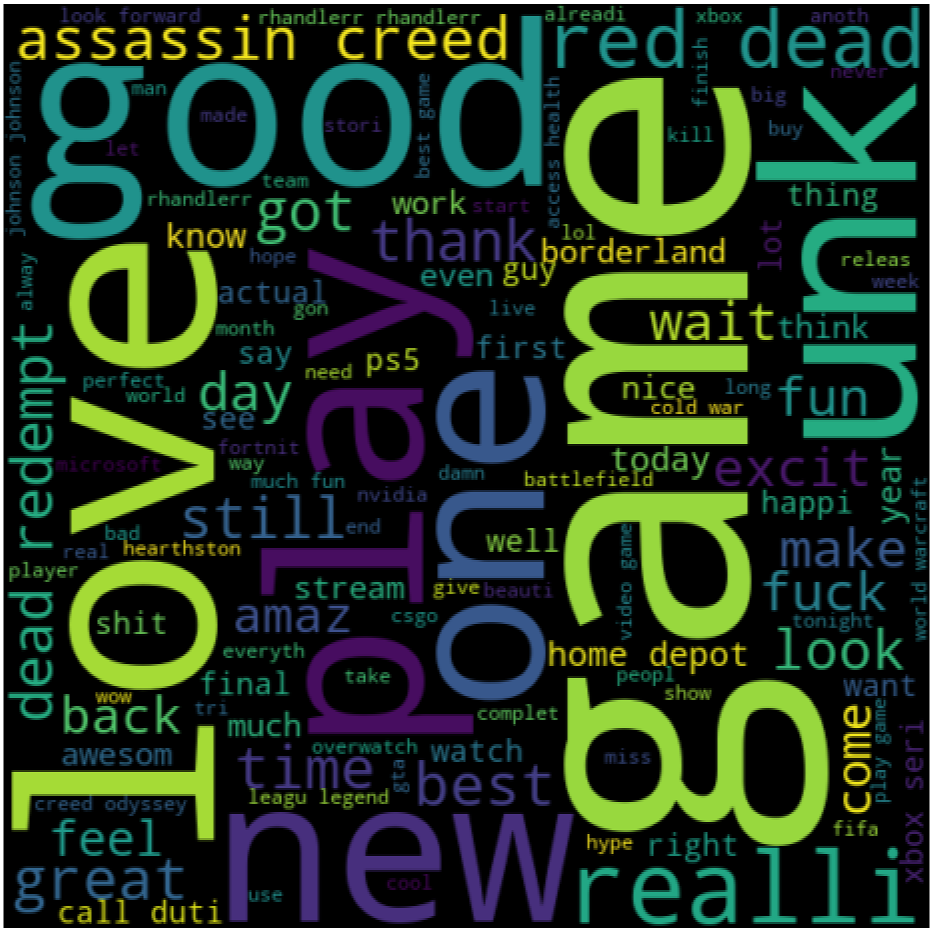
71656 rows × 7 columns

In [43]:

```
pos_wc=wc.generate(df[df['Sentiments_encoded']==3]['Transformed_text'].str.cat(sep=' '))
```

In [44]:

```
plt.figure(figsize=(12, 6))
plt.imshow(pos_wc, interpolation='bilinear')
plt.axis("off")
plt.show()
```

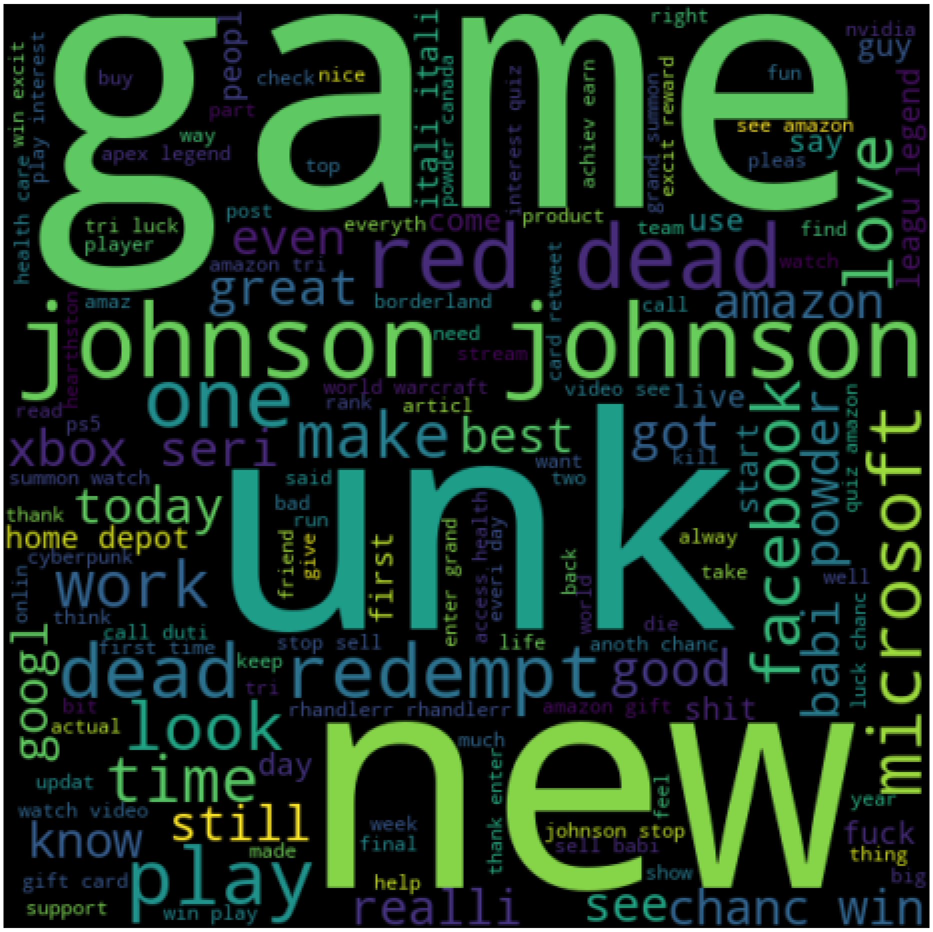


In [45]:

```
neu_wc=wc.generate(df[df['Sentiments_encoded']==2]['Transformed_text'].str.cat(sep=' '))
```

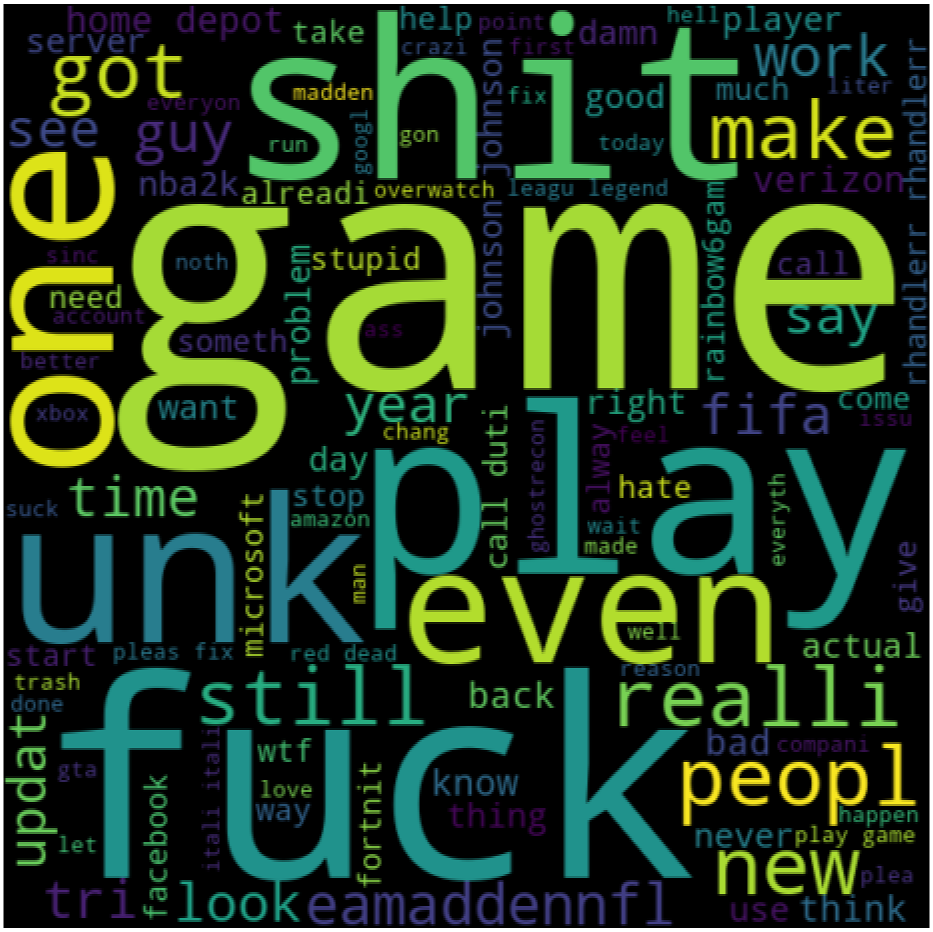
In [46]:

```
plt.figure(figsize=(12, 6))
plt.imshow(neu_wc, interpolation='bilinear')
plt.axis("off")
plt.show()
```



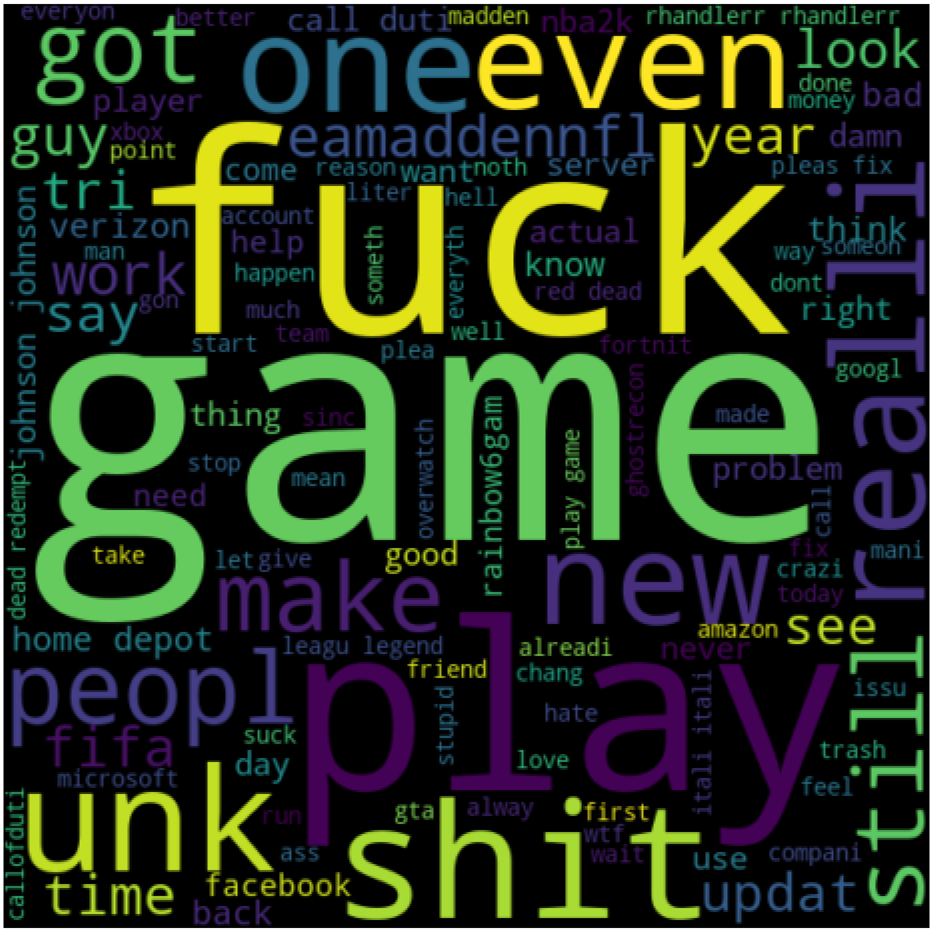
```
In [47]: neg_wc=wc.generate(df[df['Sentiments_encoded']==1]['Transformed_text'].str.cat(sep=' '))
```

```
In [48]: plt.figure(figsize=(12, 6))
         plt.imshow(neg_wc, interpolation='bilinear')
         plt.axis("off")
         plt.show()
```



In [49]:
```
irr_wc=wc.generate(df[df['Sentiments_encoded']==1]['Transformed_text'].str.cat(sep=' '))
```

In [50]:
```
plt.figure(figsize=(12, 6))
plt.imshow(irr_wc, interpolation='bilinear')
plt.axis("off")
plt.show()
```



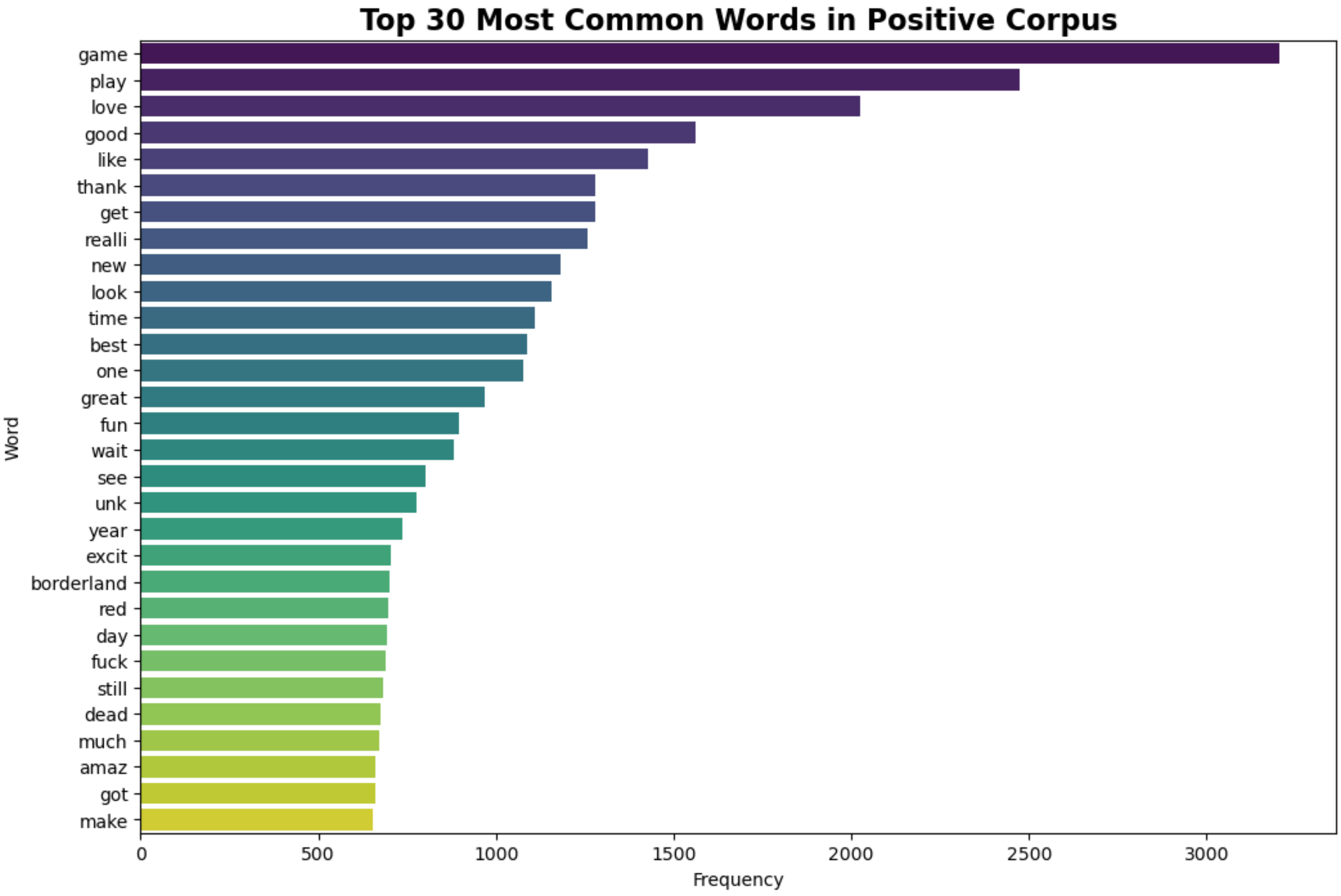
In [55]:
```
pos_corpus = []
for msg in df[df['Sentiments_encoded']==3]['Transformed_text'].tolist():
        for words in msg.split():
            pos_corpus.append(words)
```

In [56]:
```
from collections import Counter
Counter(pos_corpus).most_common(30)
```

Out[56]:
```
[('game', 3205),
 ('play', 2473),
 ('love', 2024),
 ('good', 1561),
 ('like', 1427),
 ('thank', 1280),
 ('get', 1278),
 ('realli', 1257),
 ('new', 1181),
 ('look', 1157),
 ('time', 1109),
 ('best', 1087),
 ('one', 1076),
 ('great', 968),
 ('fun', 896),
 ('wait', 880),
 ('see', 801),
 ('unk', 776),
 ('year', 736),
 ('excit', 703),
 ('borderland', 702),
 ('red', 697),
 ('day', 694),
 ('fuck', 688),
 ('still', 682),
 ('dead', 676),
 ('much', 670),
 ('amaz', 661),
 ('got', 659),
 ('make', 654)]
```

In [67]:

```
word_frequencies = Counter(pos_corpus).most_common(30)
word_freq_df = pd.DataFrame(word_frequencies, columns=['Word', 'Frequency'])

plt.figure(figsize=(12, 8))
sns.barplot(x='Frequency', y='Word', data=word_freq_df, palette='viridis')
plt.xlabel('Frequency')
plt.ylabel('Word')
plt.title('Top 30 Most Common Words in Positive Corpus',weight='bold',fontsize=16)
plt.show()
```

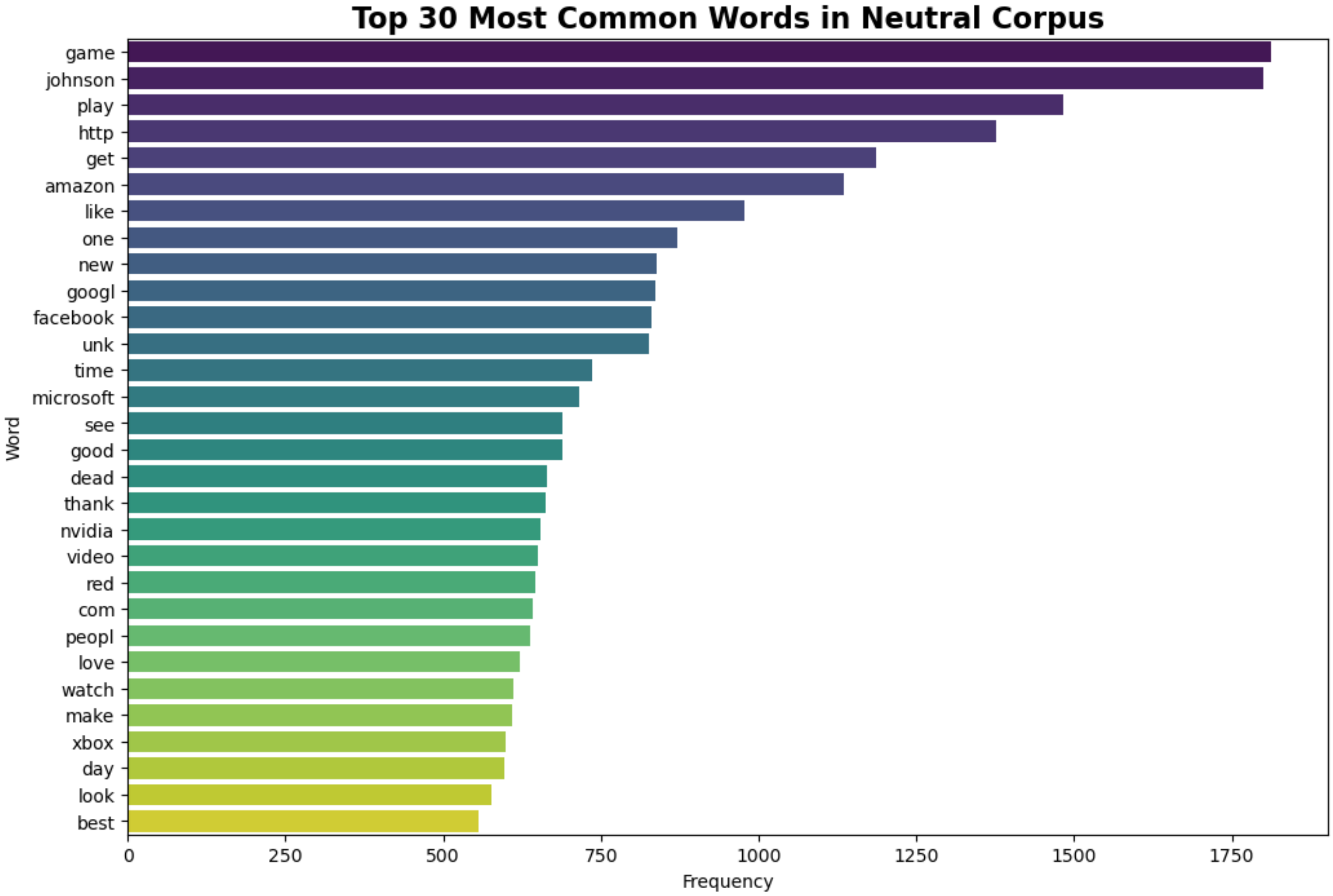


In [58]:

```
neu_corpus = []
for msg in df[df['Sentiments_encoded']==2]['Transformed_text'].tolist():
        for words in msg.split():
            neu_corpus.append(words)
```

In [66]:

```
from collections import Counter
Counter(neu_corpus).most_common(30)
word_frequencies = Counter(neu_corpus).most_common(30)
word_freq_df = pd.DataFrame(word_frequencies, columns=['Word', 'Frequency'])

plt.figure(figsize=(12, 8))
sns.barplot(x='Frequency', y='Word', data=word_freq_df, palette='viridis')
plt.xlabel('Frequency')
plt.ylabel('Word')
plt.title('Top 30 Most Common Words in Neutral Corpus',weight='bold',fontsize=16)
plt.show()
```



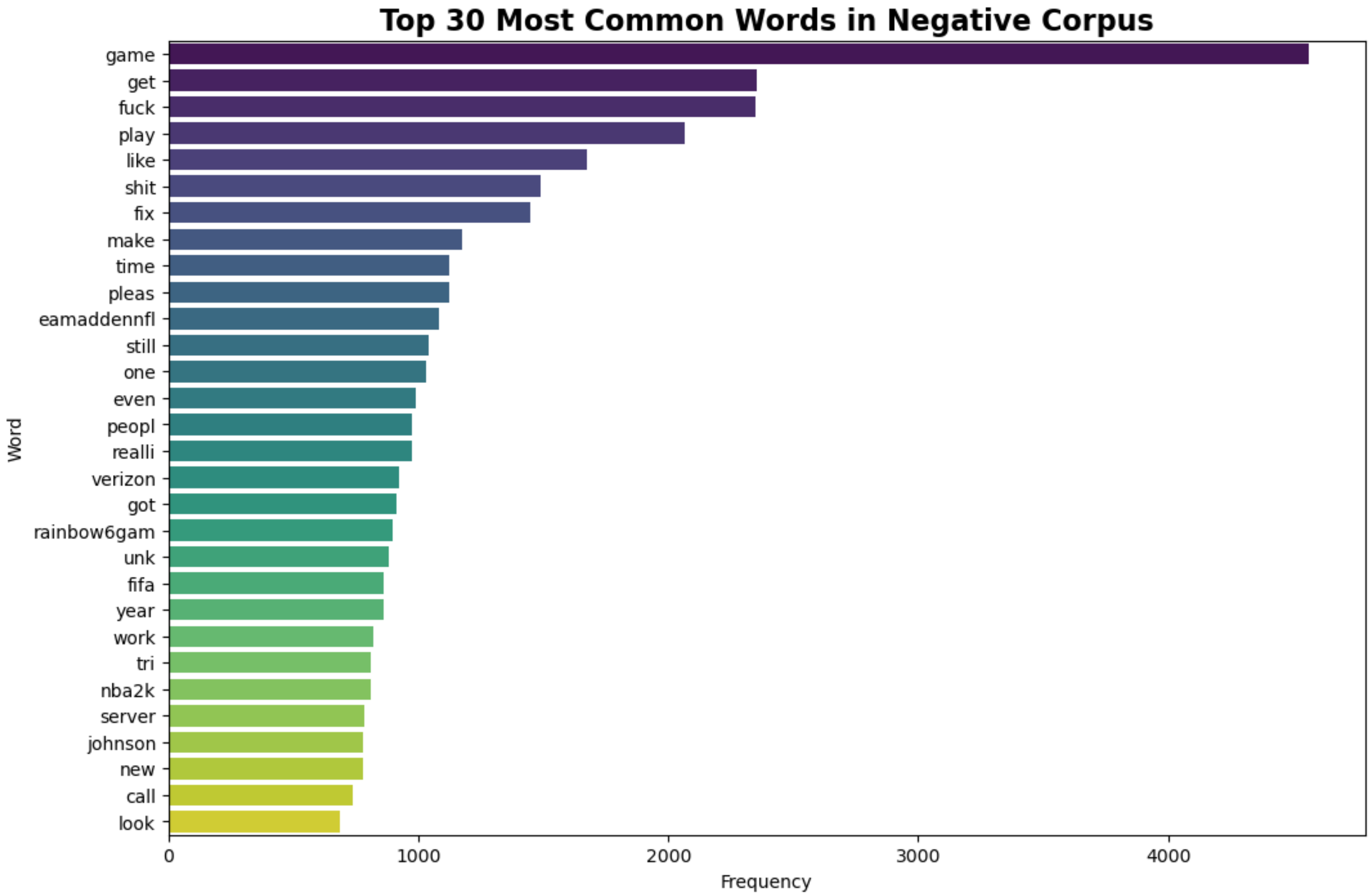
Top 30 Most Common Words in Neutral Corpus

In [60]:

```
neg_corpus = []
for msg in df[df['Sentiments_encoded']==1]['Transformed_text'].tolist():
        for words in msg.split():
            neg_corpus.append(words)
```

In [65]:

```
from collections import Counter
Counter(neu_corpus).most_common(30)
word_frequencies = Counter(neg_corpus).most_common(30)
word_freq_df = pd.DataFrame(word_frequencies, columns=['Word', 'Frequency'])

plt.figure(figsize=(12, 8))
sns.barplot(x='Frequency', y='Word', data=word_freq_df, palette='viridis')
plt.xlabel('Frequency')
plt.ylabel('Word')
plt.title('Top 30 Most Common Words in Negative Corpus',weight='bold',fontsize=16)
plt.show()
```

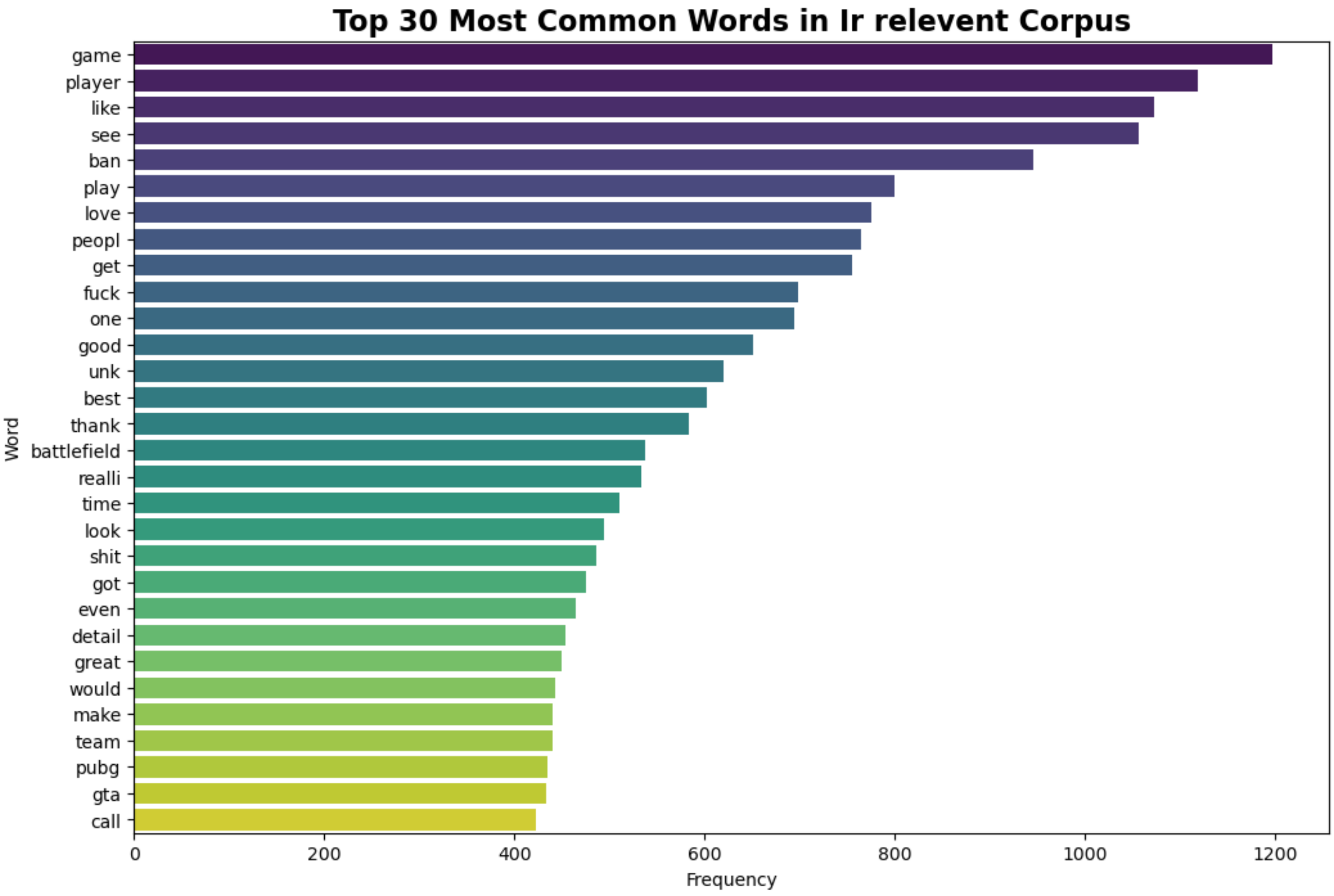


In [62]:

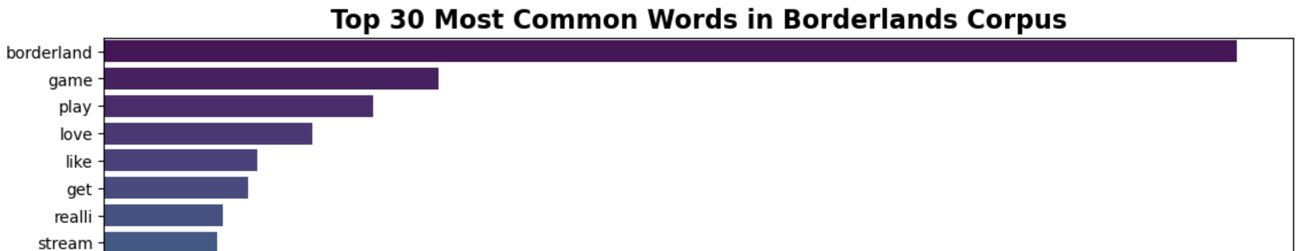
```
irr_corpus = []
for msg in df[df['Sentiments_encoded']==0]['Transformed_text'].tolist():
        for words in msg.split():
            irr_corpus.append(words)
```

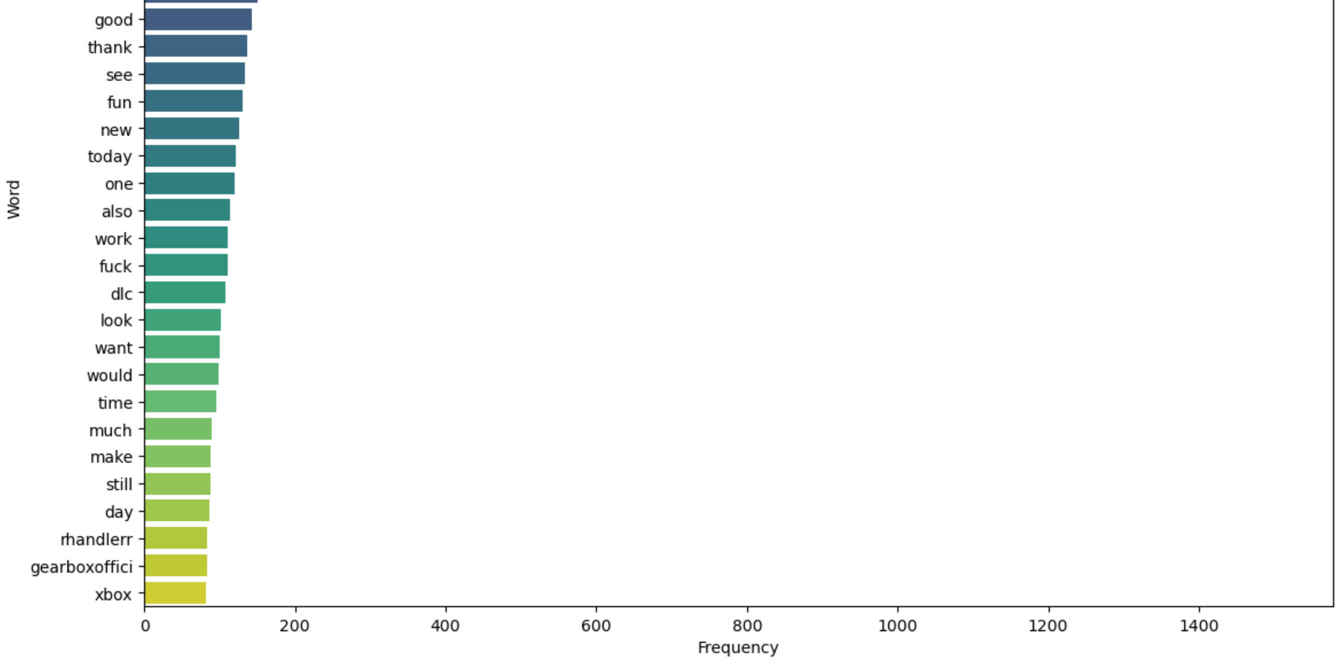
In [64]:

```
from collections import Counter
Counter(neu_corpus).most_common(30)
word_frequencies = Counter(irr_corpus).most_common(30)
word_freq_df = pd.DataFrame(word_frequencies, columns=['Word', 'Frequency'])

plt.figure(figsize=(12, 8))
sns.barplot(x='Frequency', y='Word', data=word_freq_df, palette='viridis')
plt.xlabel('Frequency')
plt.ylabel('Word')
plt.title('Top 30 Most Common Words in Ir relevent Corpus',weight='bold',fontsize=16)
plt.show()
```

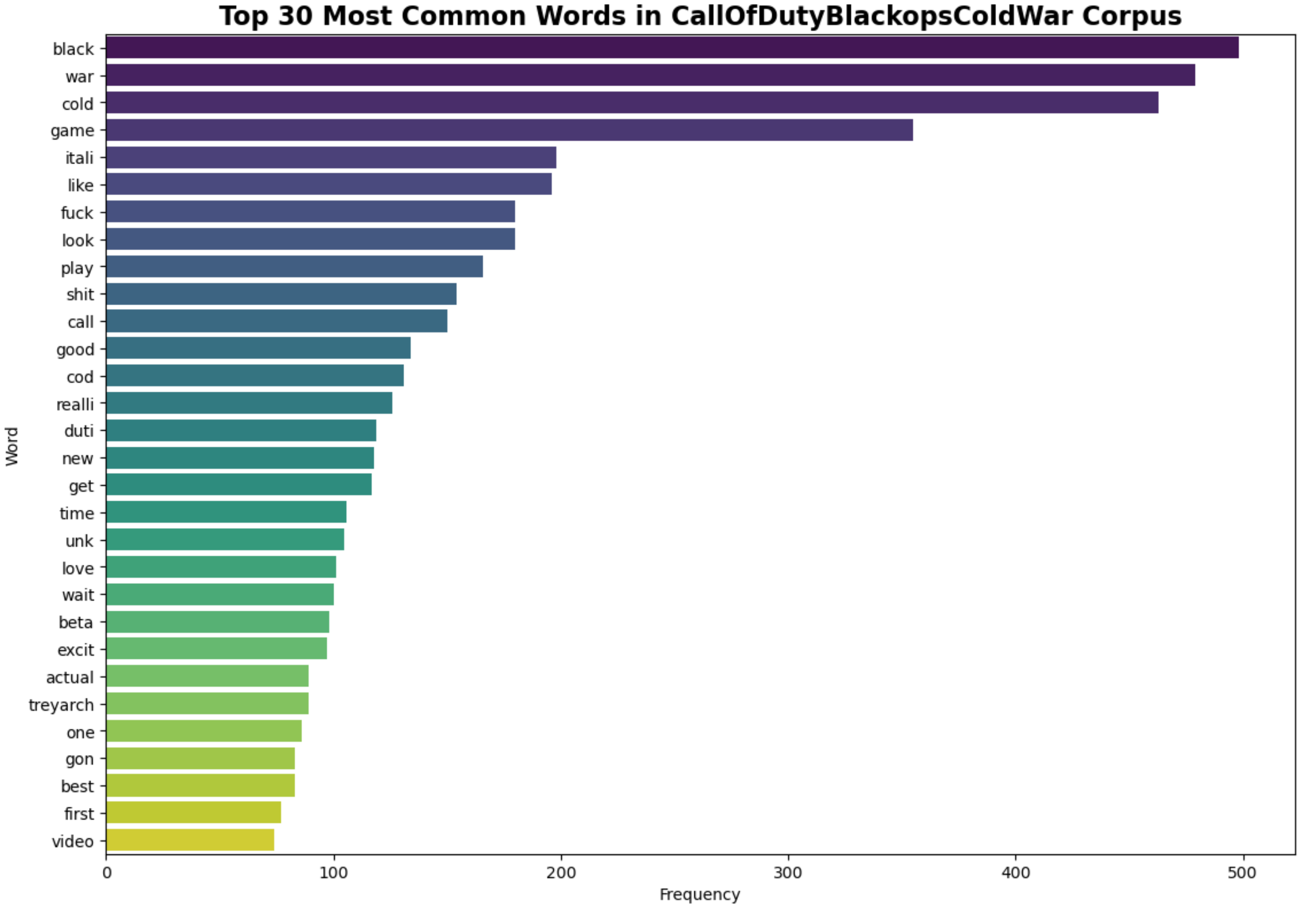


```
In [68]: from collections import Counter
         import pandas as pd
         import matplotlib.pyplot as plt
         import seaborn as sns

         # Assuming you have a DataFrame 'df' with columns 'Game' and 'Transformed_text'
         # Replace 'Transformed_text' with the actual column containing the text data

         # Define the list of unique games
         unique_games = df['Game'].unique()

         # Set up subplots
         fig, axs = plt.subplots(len(unique_games), figsize=(12, 8 * len(unique_games)), constrai

         # Iterate over each game
         for i, game in enumerate(unique_games):
             game_corpus = df[df['Game'] == game]['Transformed_text'].str.split().sum()  # Assumi
             word_frequencies = Counter(game_corpus).most_common(30)
             word_freq_df = pd.DataFrame(word_frequencies, columns=['Word', 'Frequency'])

             # Create a bar plot for each game
             sns.barplot(ax=axs[i], x='Frequency', y='Word', data=word_freq_df, palette='viridis'
             axs[i].set_xlabel('Frequency')
             axs[i].set_ylabel('Word')
             axs[i].set_title(f'Top 30 Most Common Words in {game} Corpus', weight='bold', fontsi

         plt.show()
```

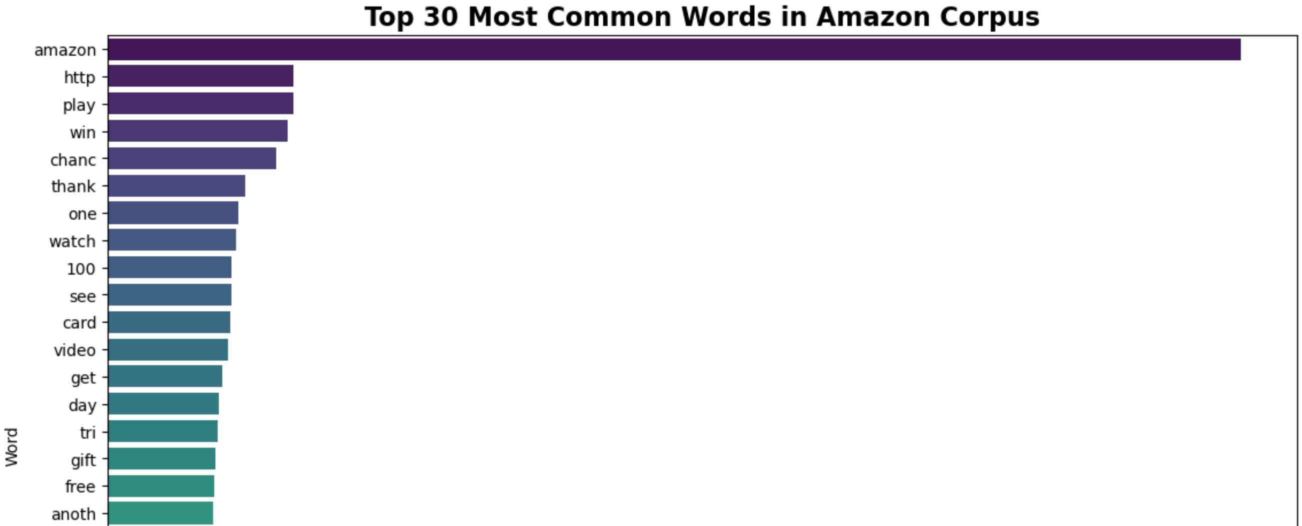


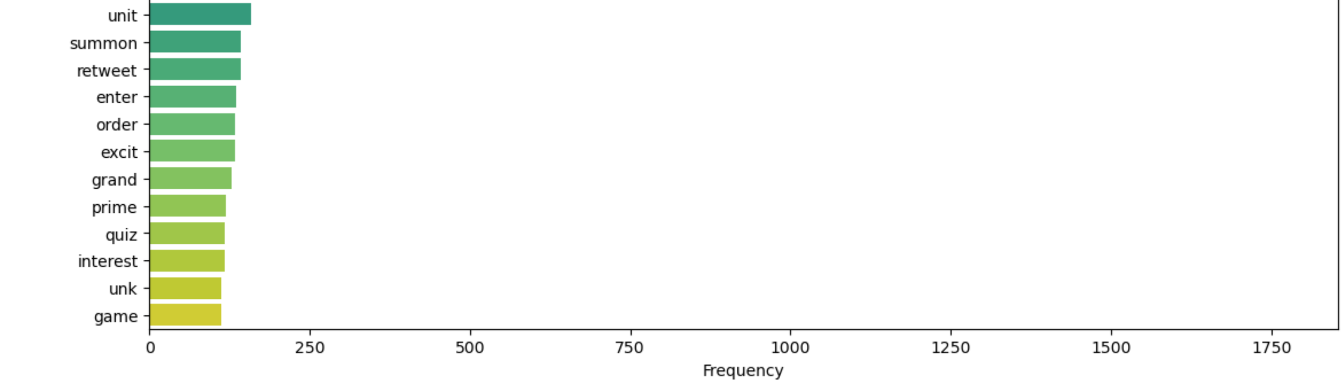


Top 30 Most Common Words in CallOfDutyBlackopsColdWar Corpus

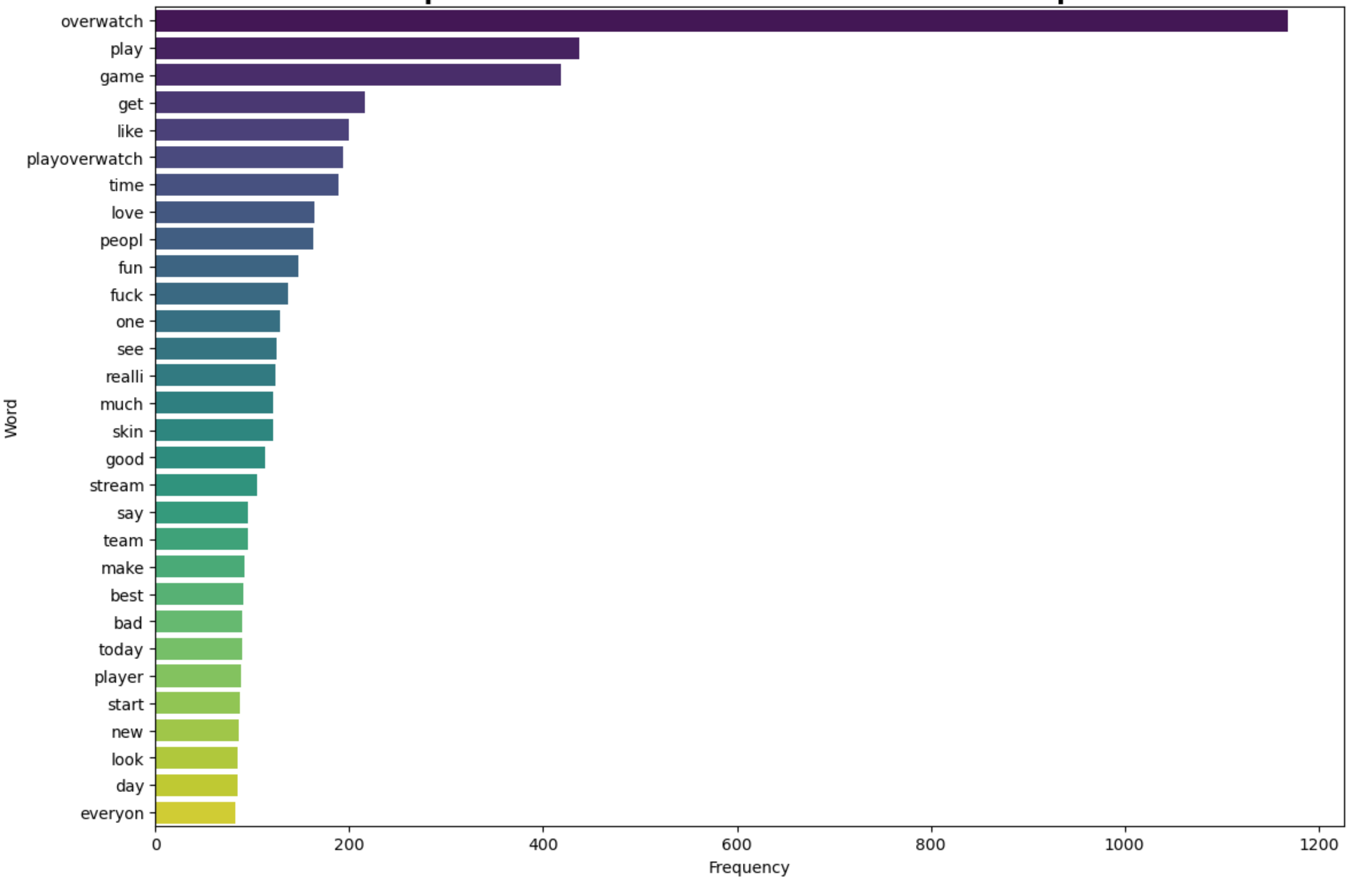


Top 30 Most Common Words in Amazon Corpus

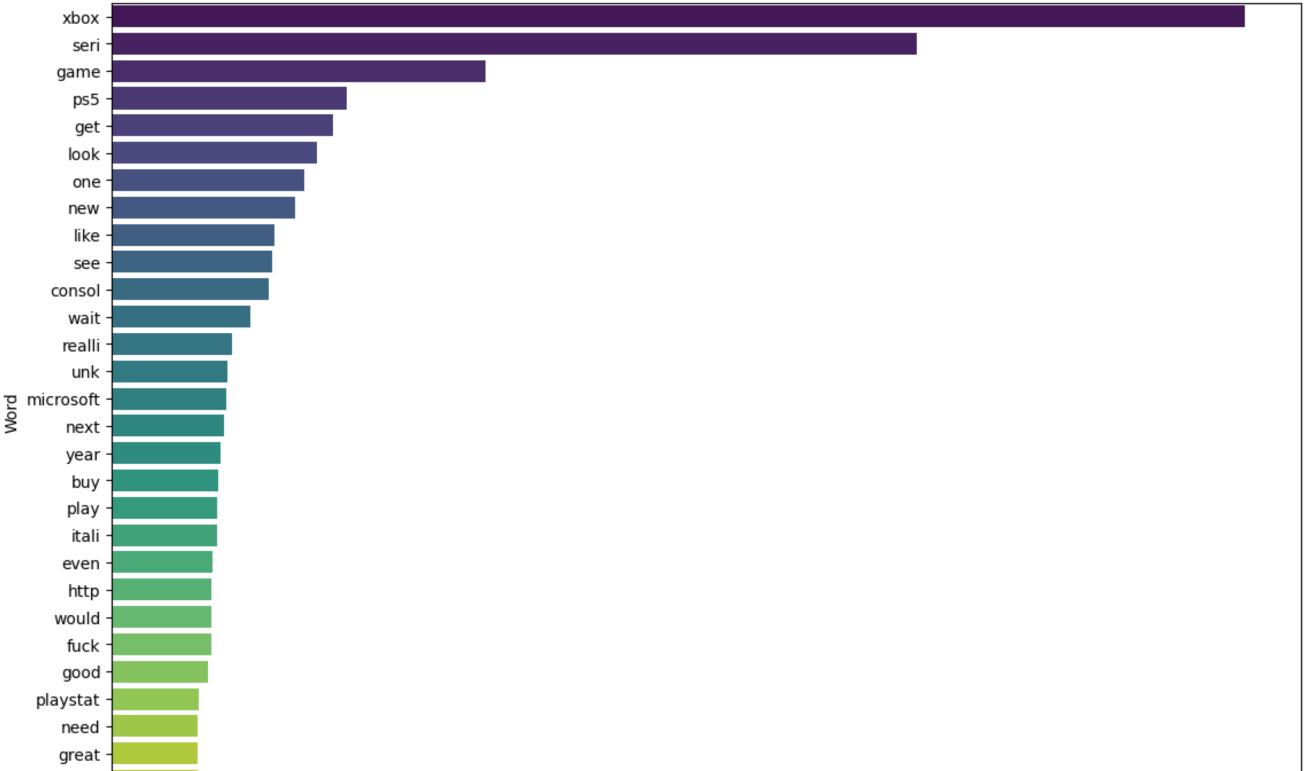


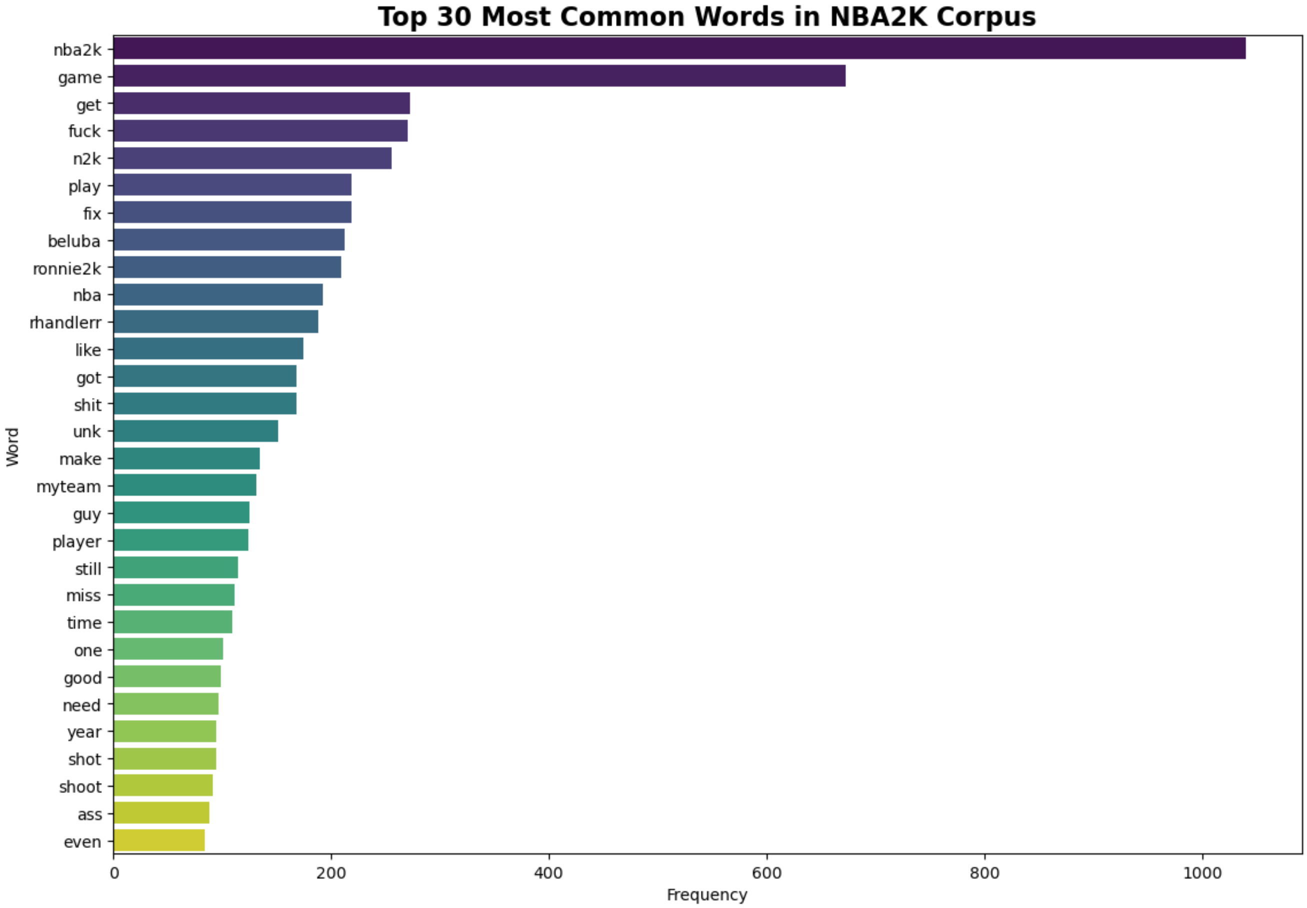


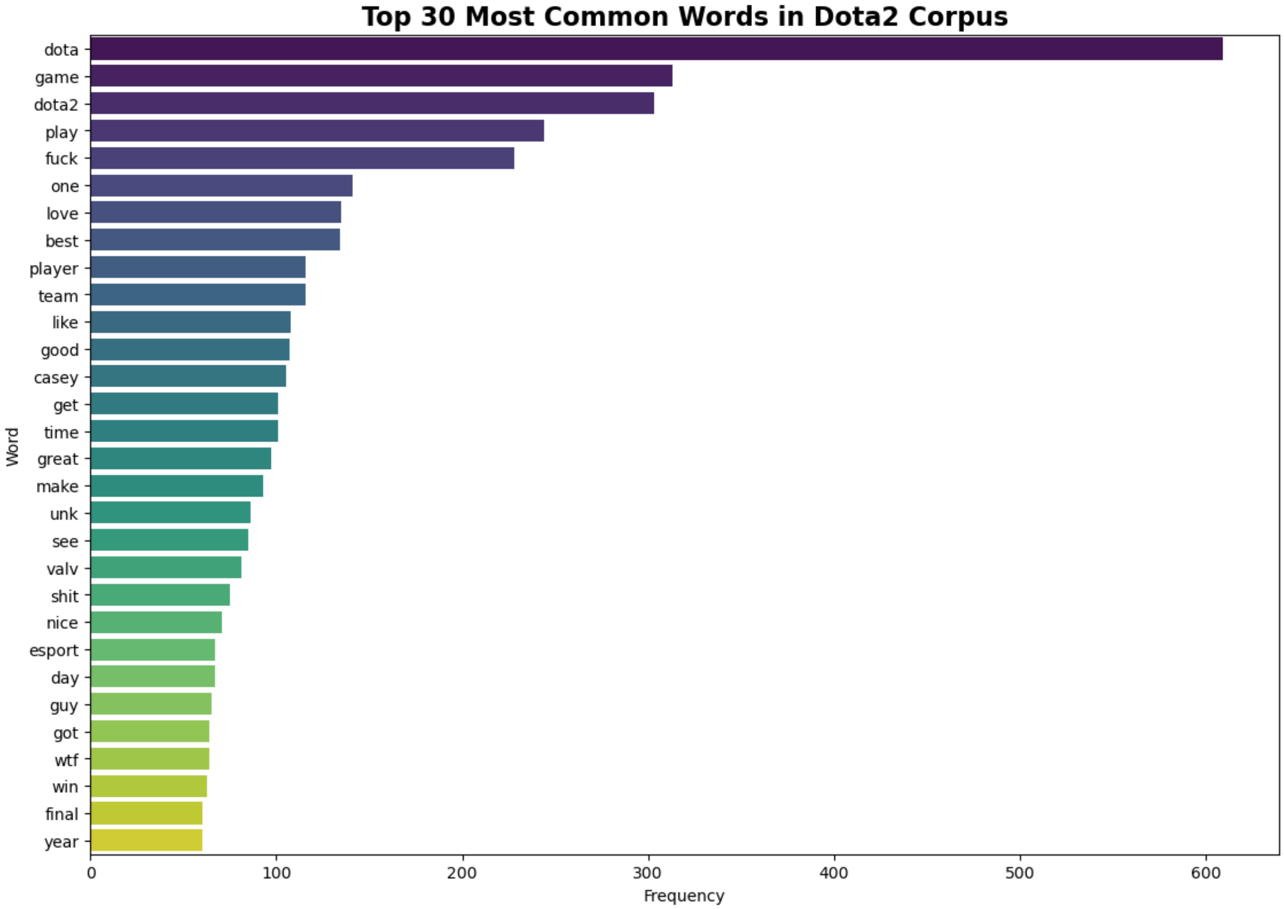
Top 30 Most Common Words in Overwatch Corpus

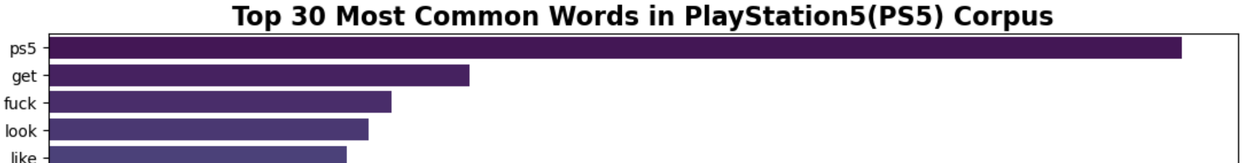


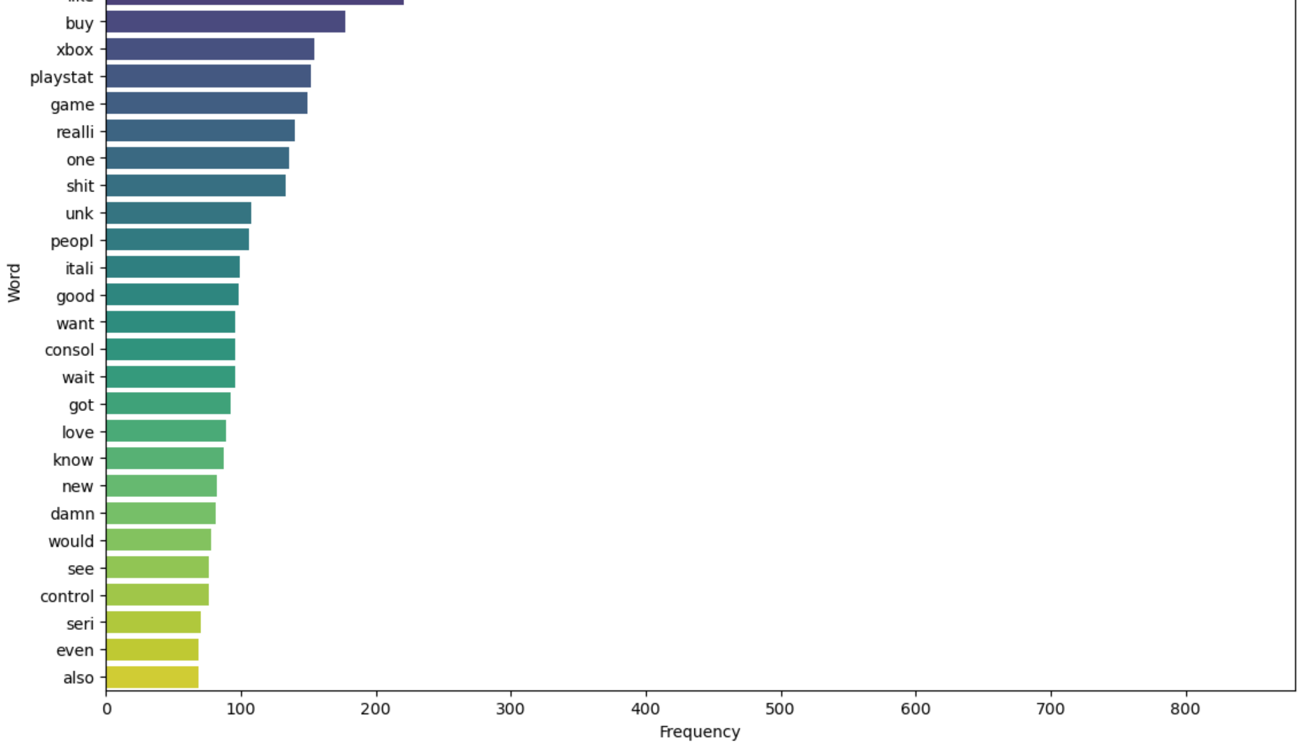
Top 30 Most Common Words in Xbox(Xseries) Corpus



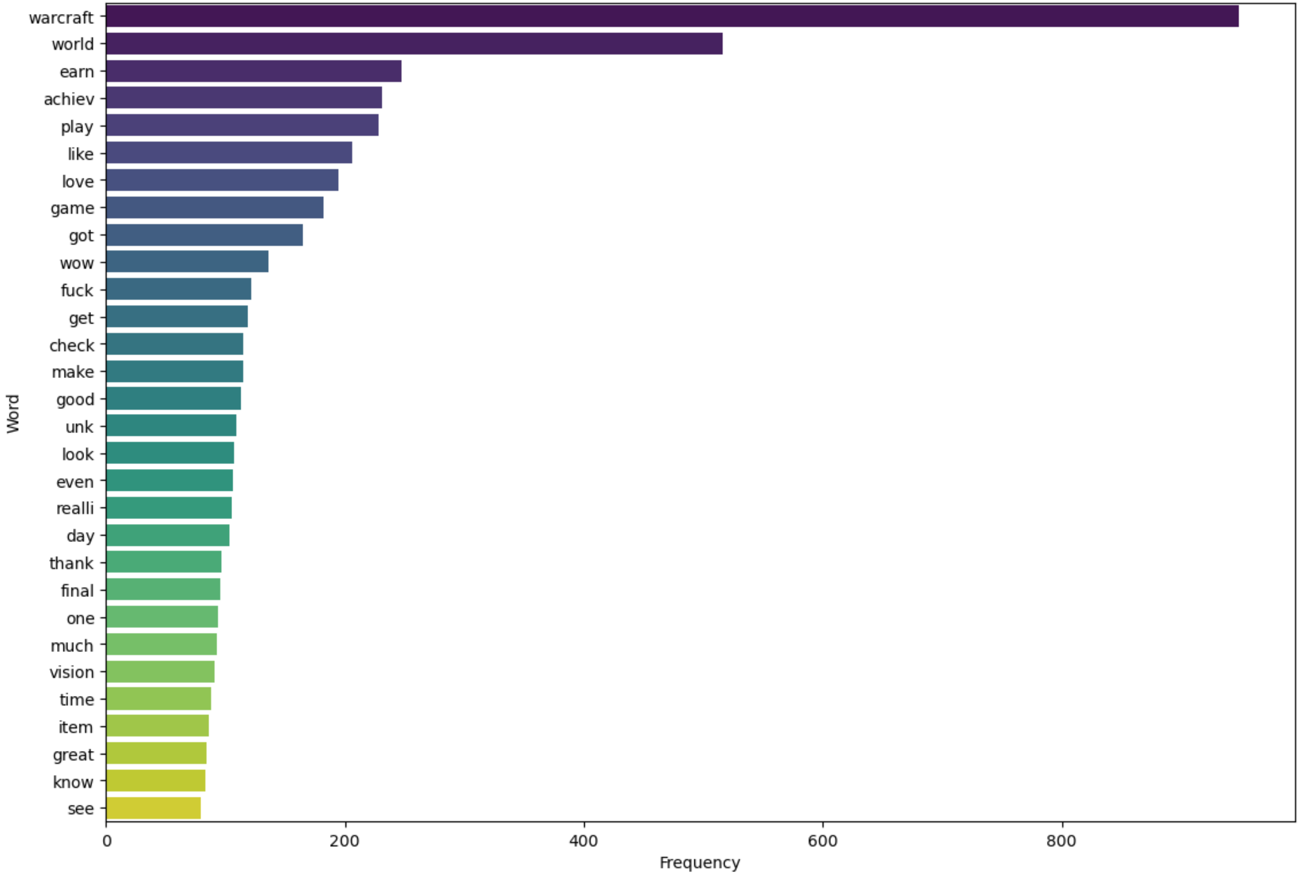

Top 30 Most Common Words in NBA2K Corpus


Top 30 Most Common Words in Dota2 Corpus

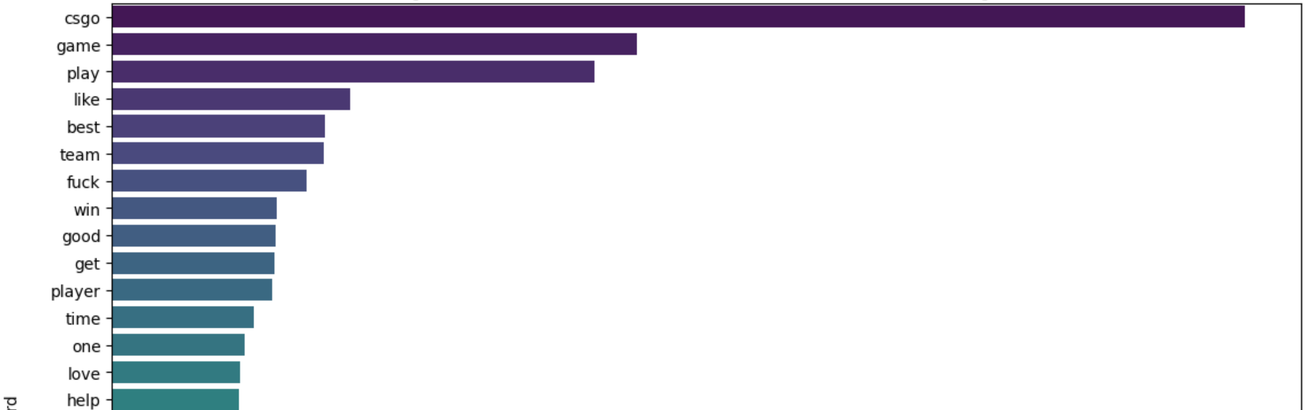

Top 30 Most Common Words in PlayStation5(PS5) Corpus

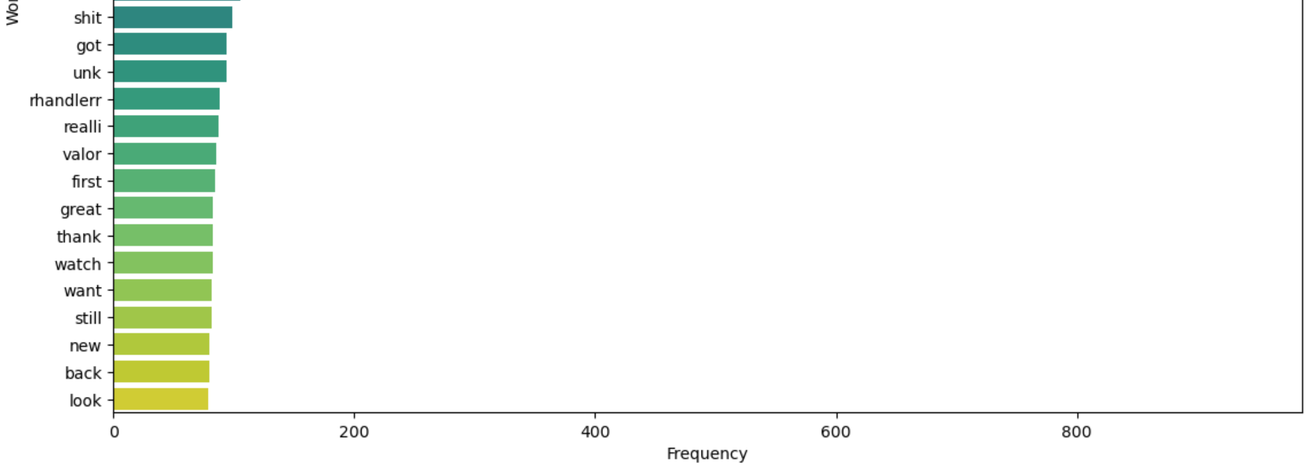


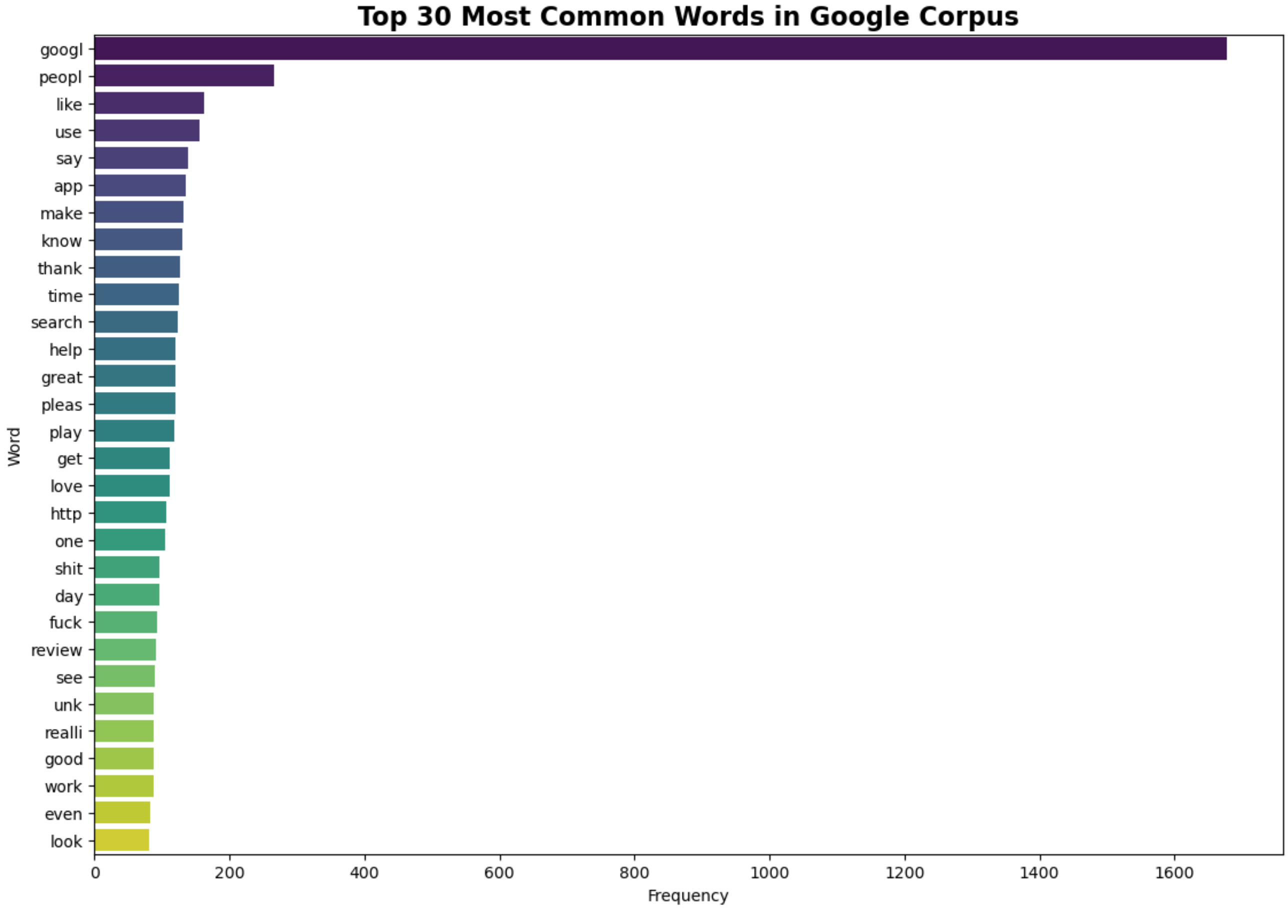
Top 30 Most Common Words in WorldOfCraft Corpus

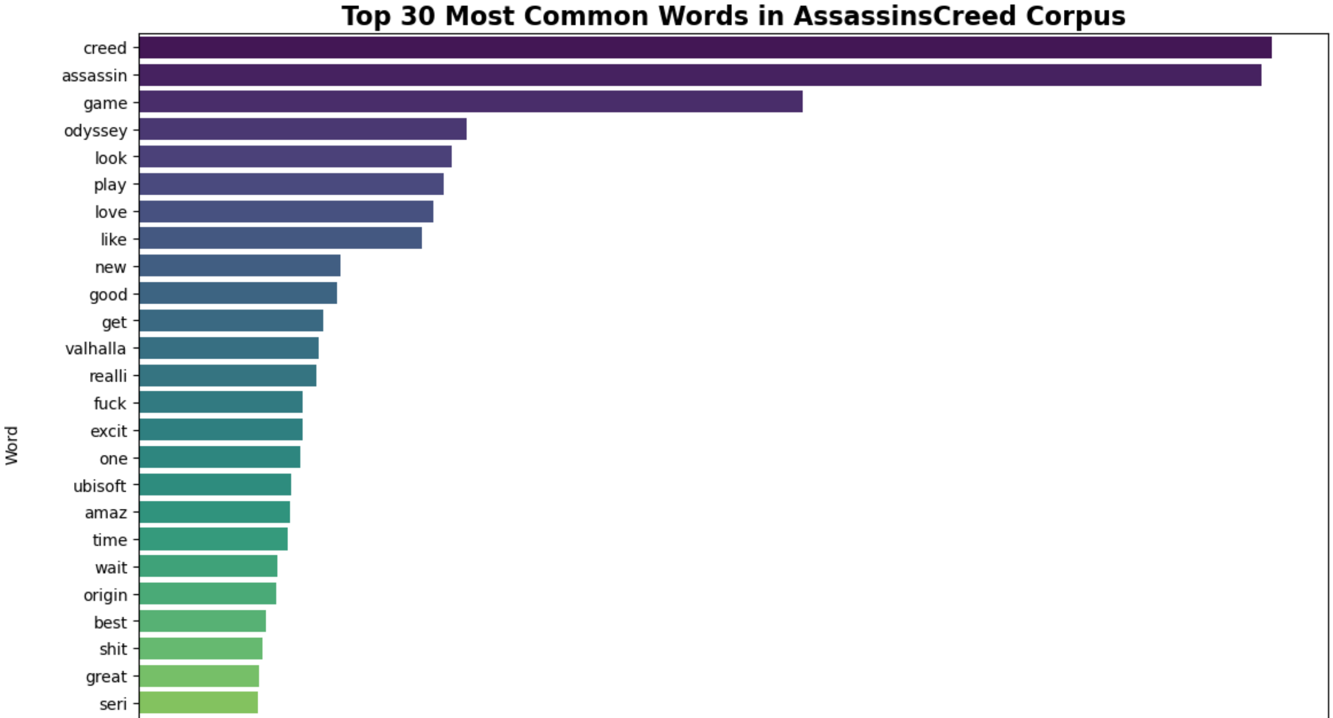


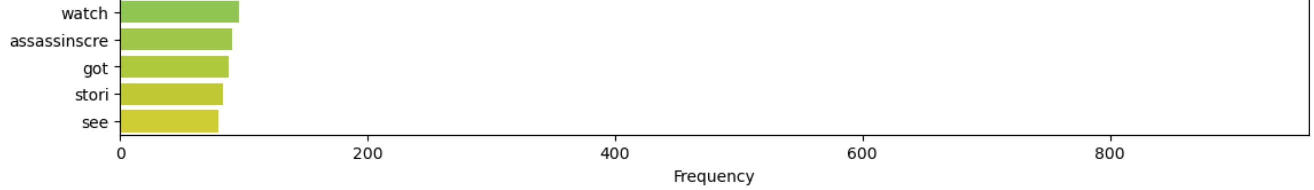
Top 30 Most Common Words in CS-GO Corpus



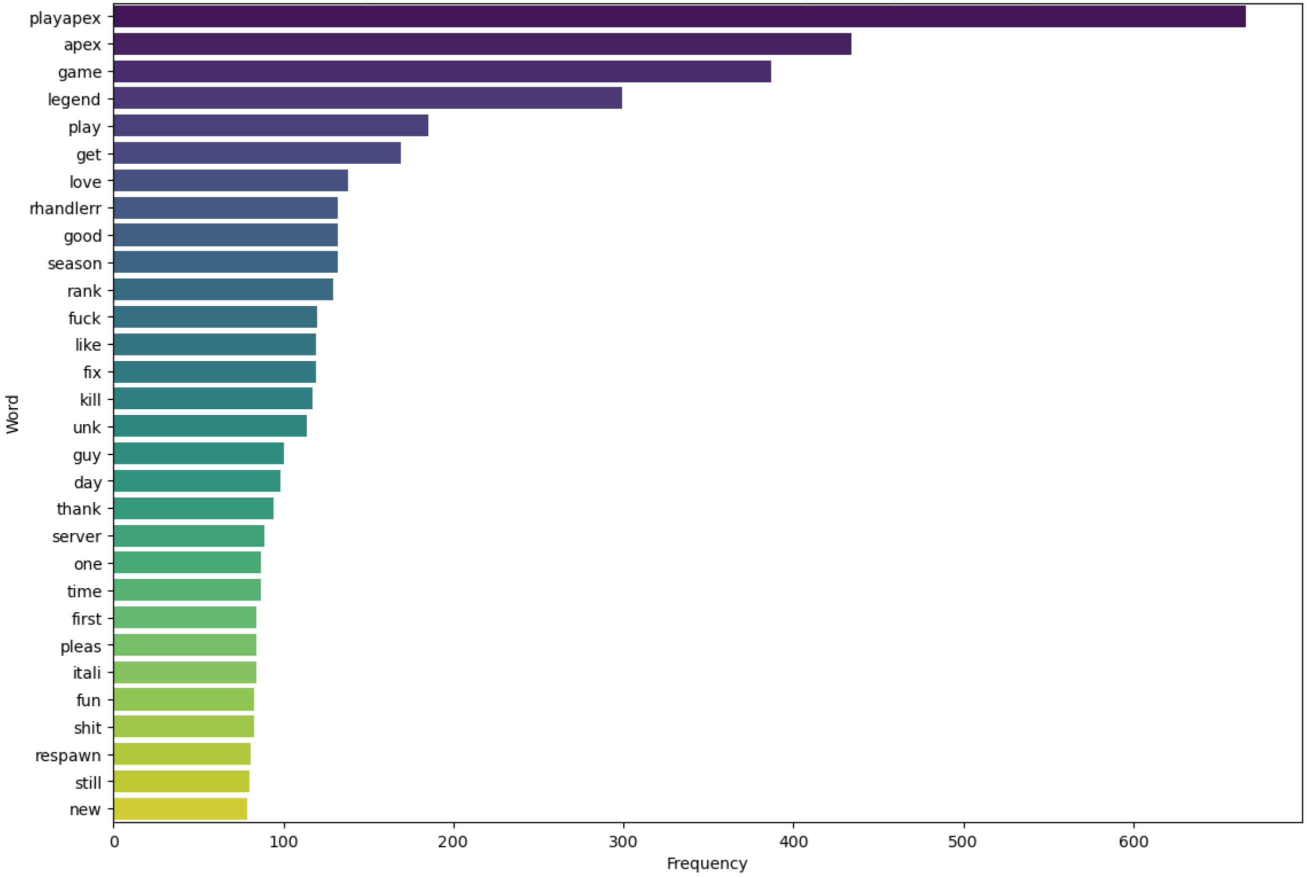



Top 30 Most Common Words in Google Corpus

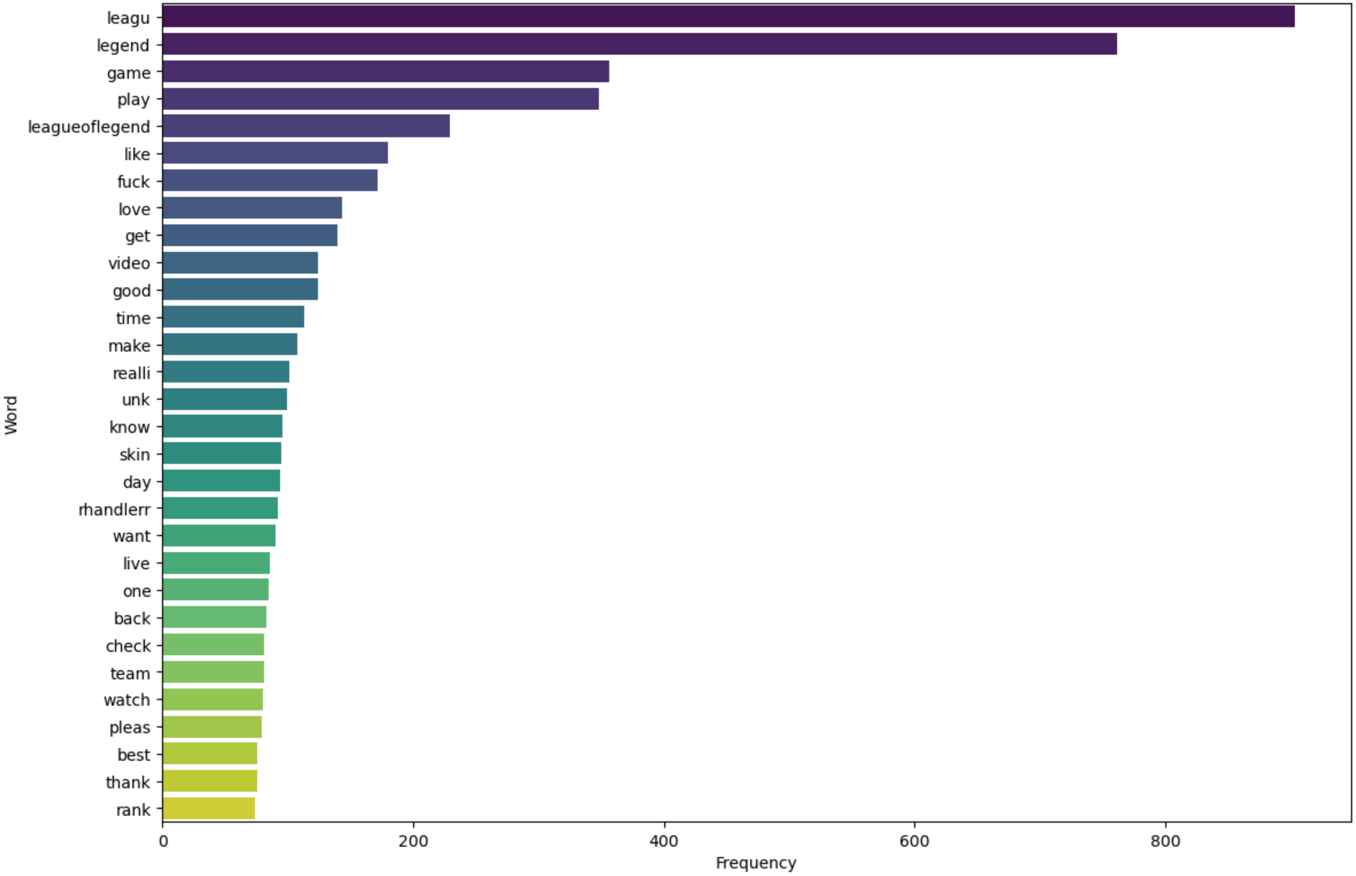

Top 30 Most Common Words in AssassinsCreed Corpus



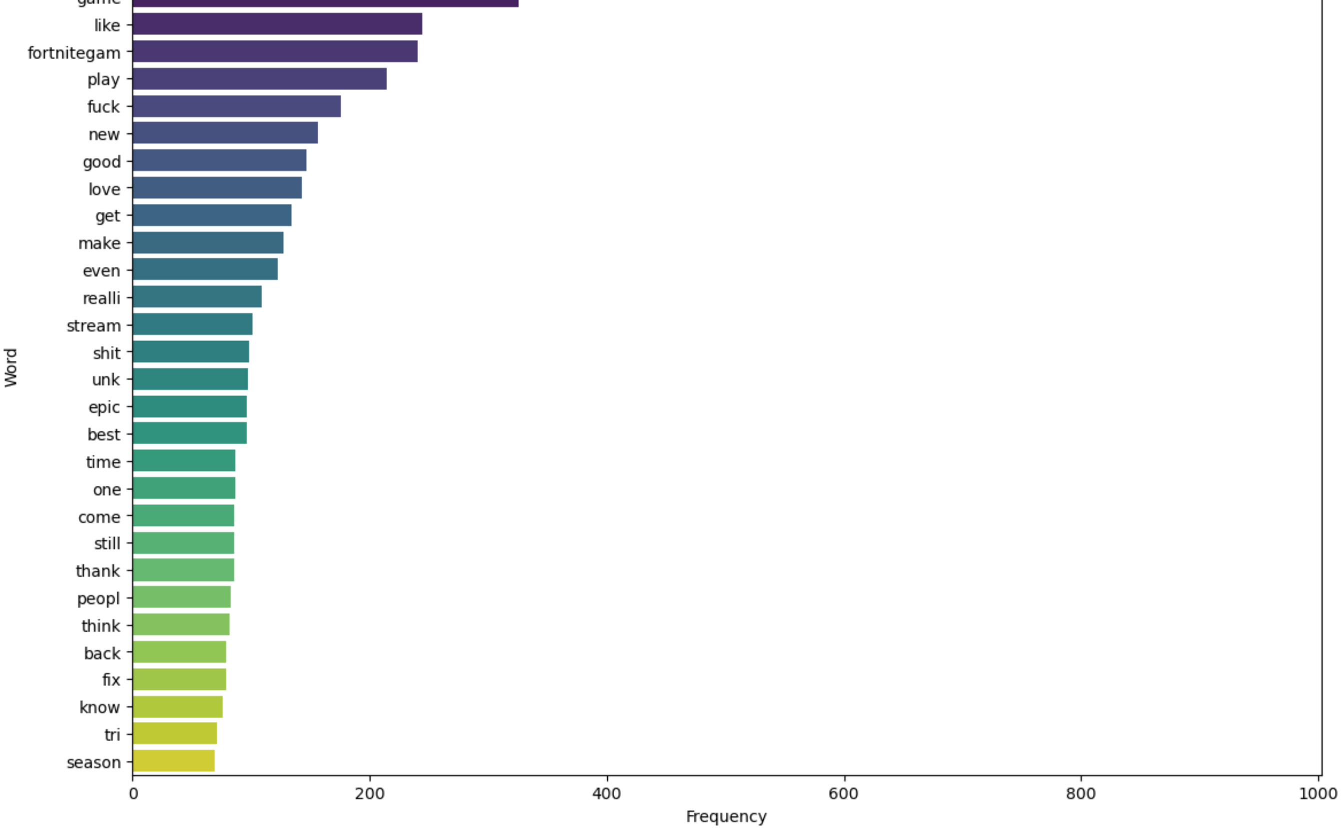
Top 30 Most Common Words in ApexLegends Corpus

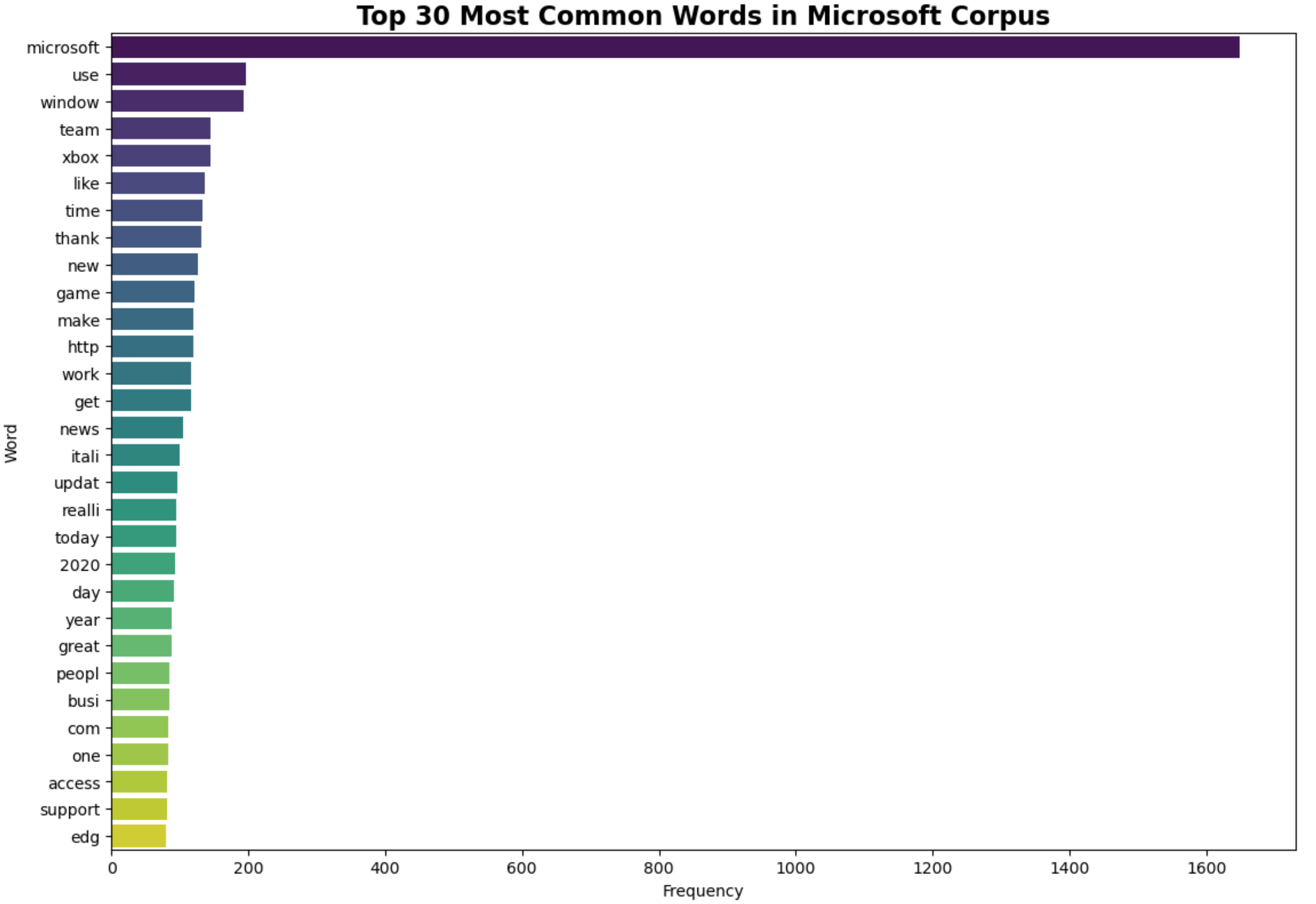


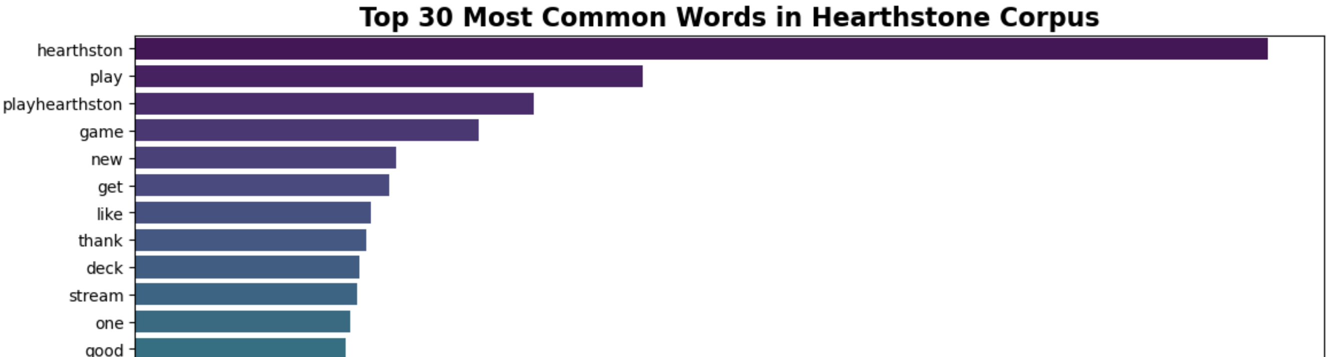
Top 30 Most Common Words in LeagueOfLegends Corpus

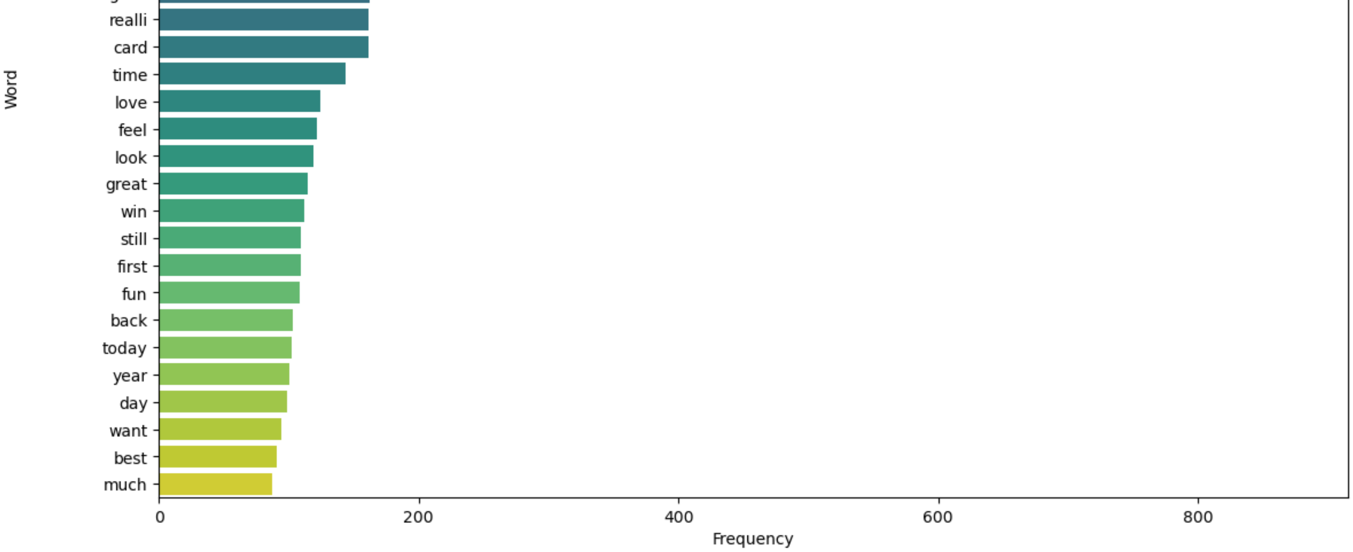


Top 30 Most Common Words in Fortnite Corpus

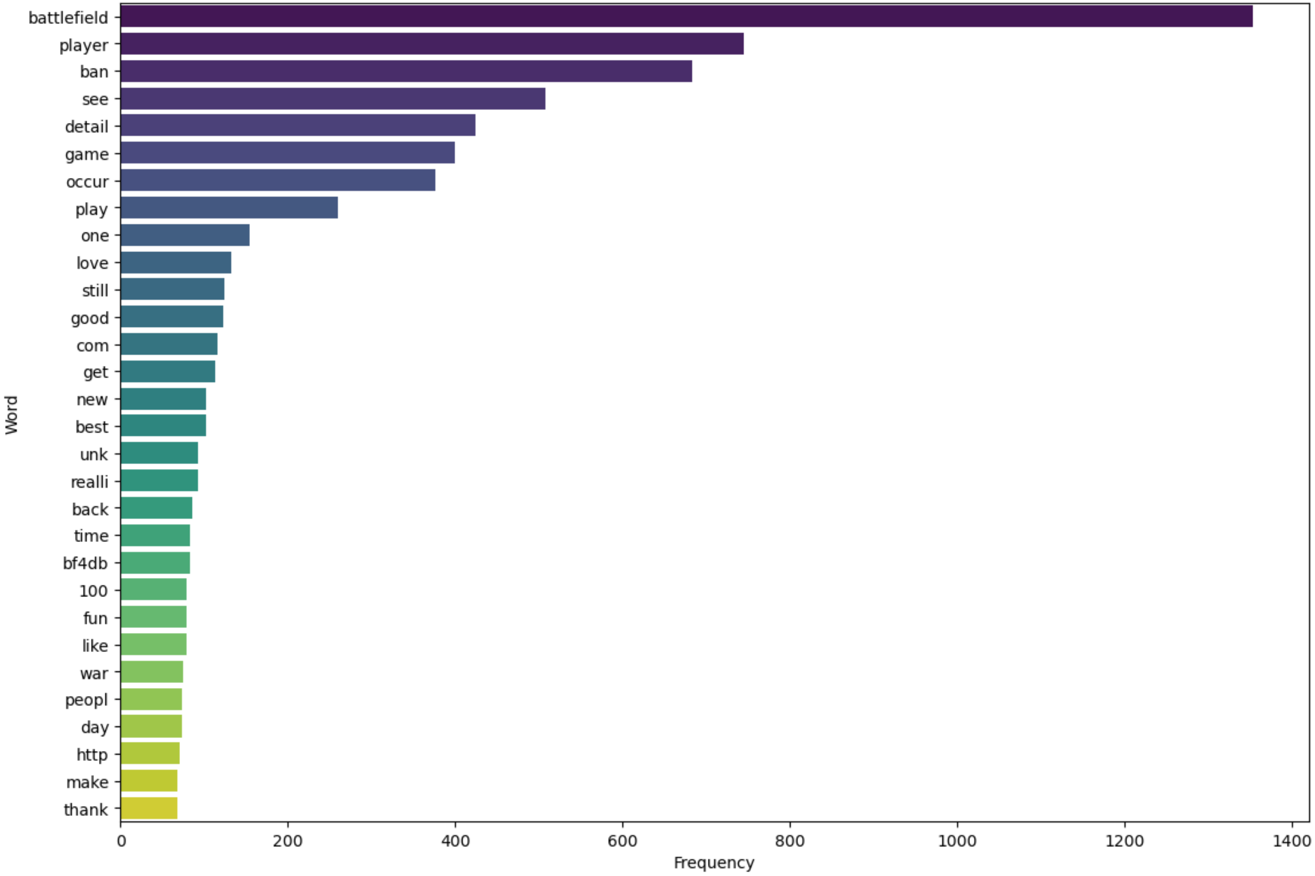



Top 30 Most Common Words in Microsoft Corpus

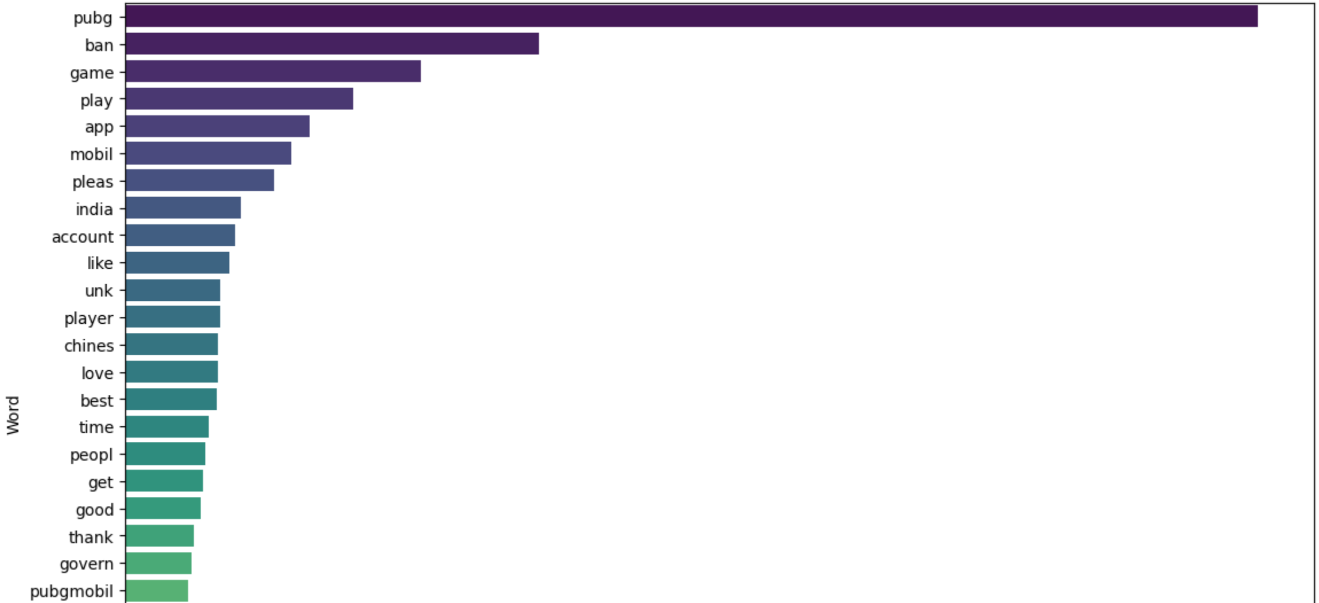

Top 30 Most Common Words in Hearthstone Corpus

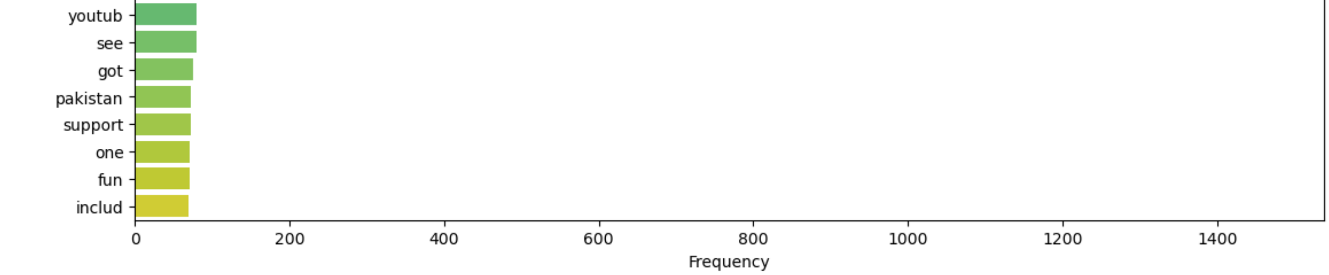


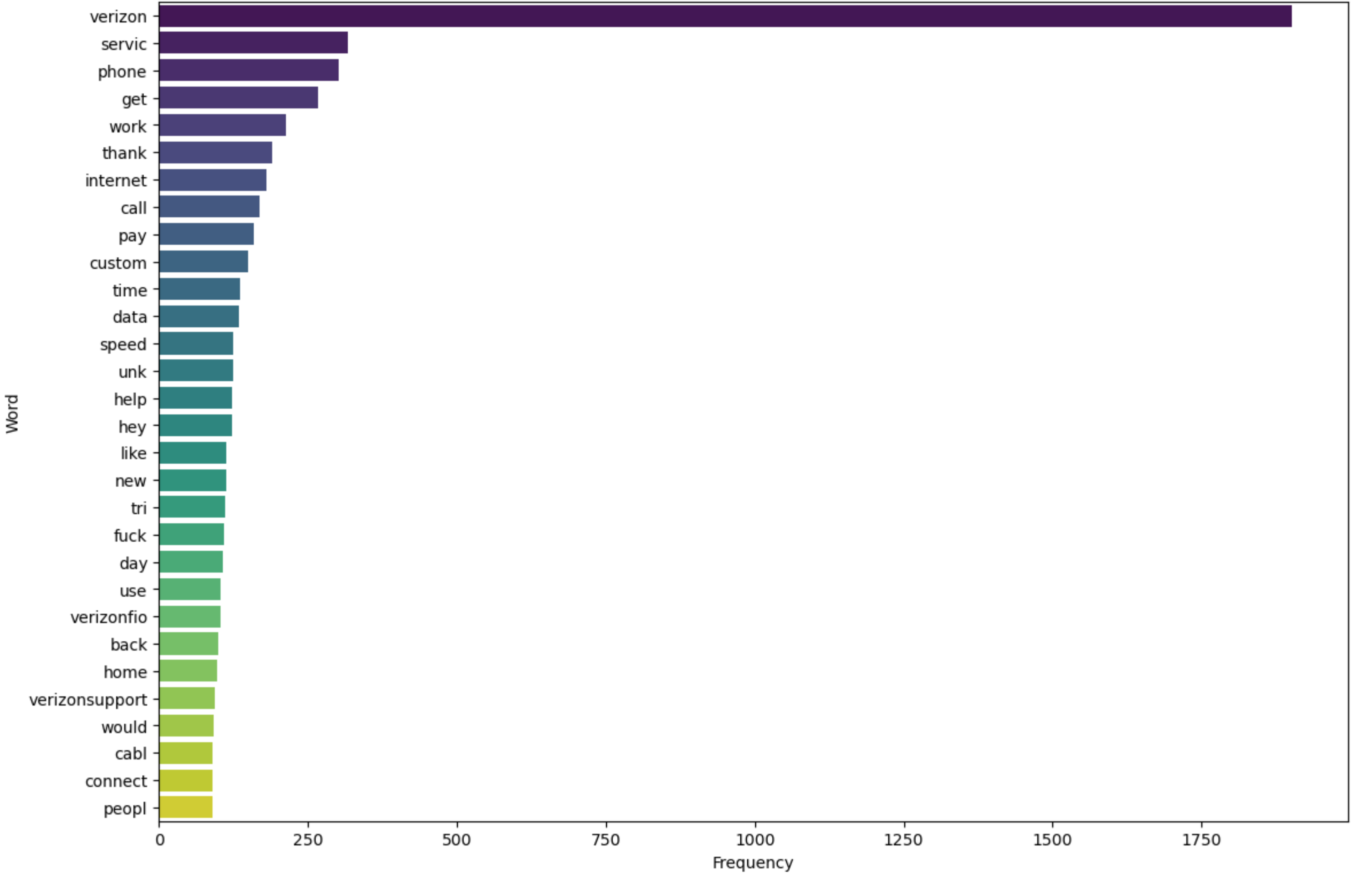
Top 30 Most Common Words in Battlefield Corpus

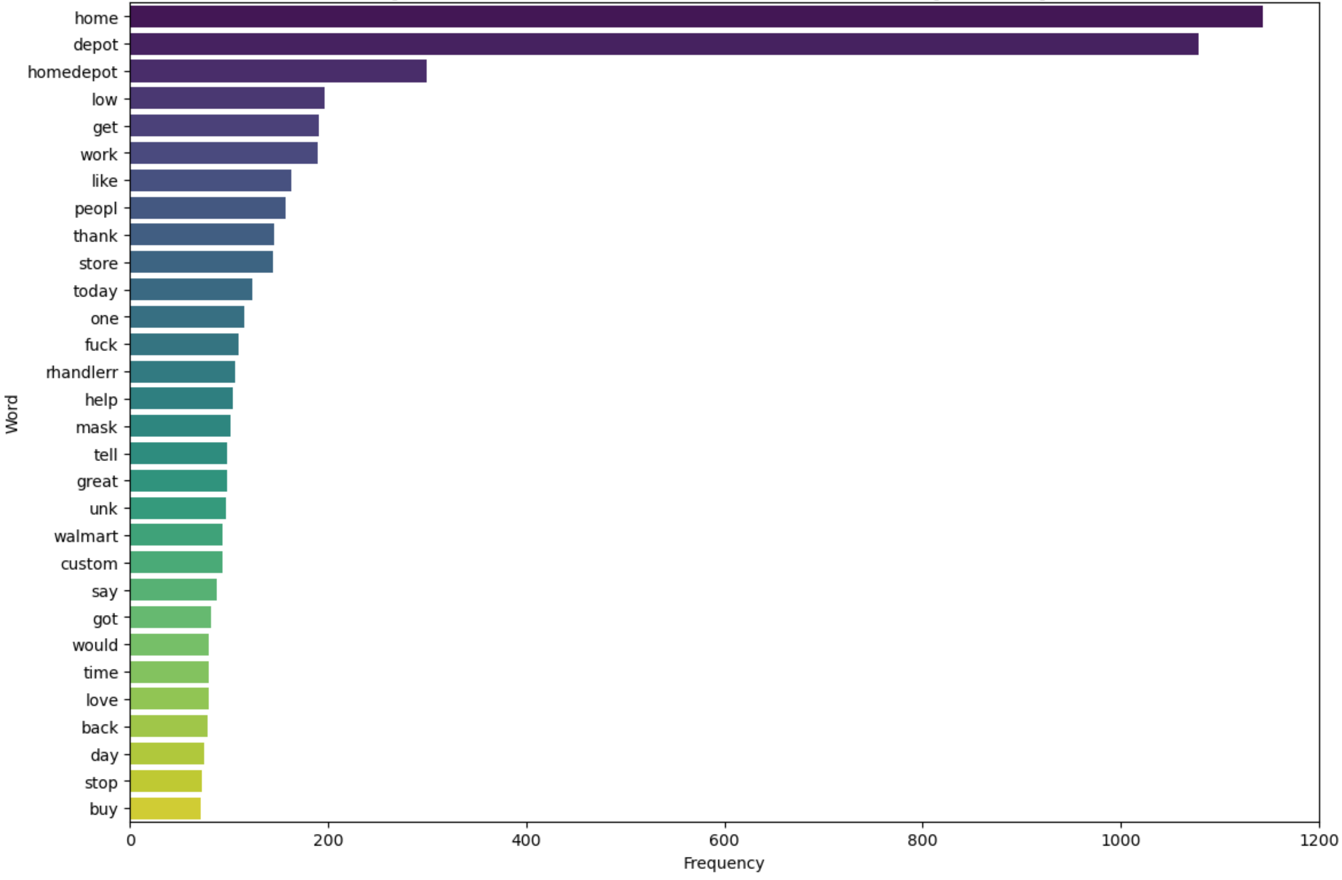


Top 30 Most Common Words in PlayerUnknownsBattlegrounds(PUBG) Corpus

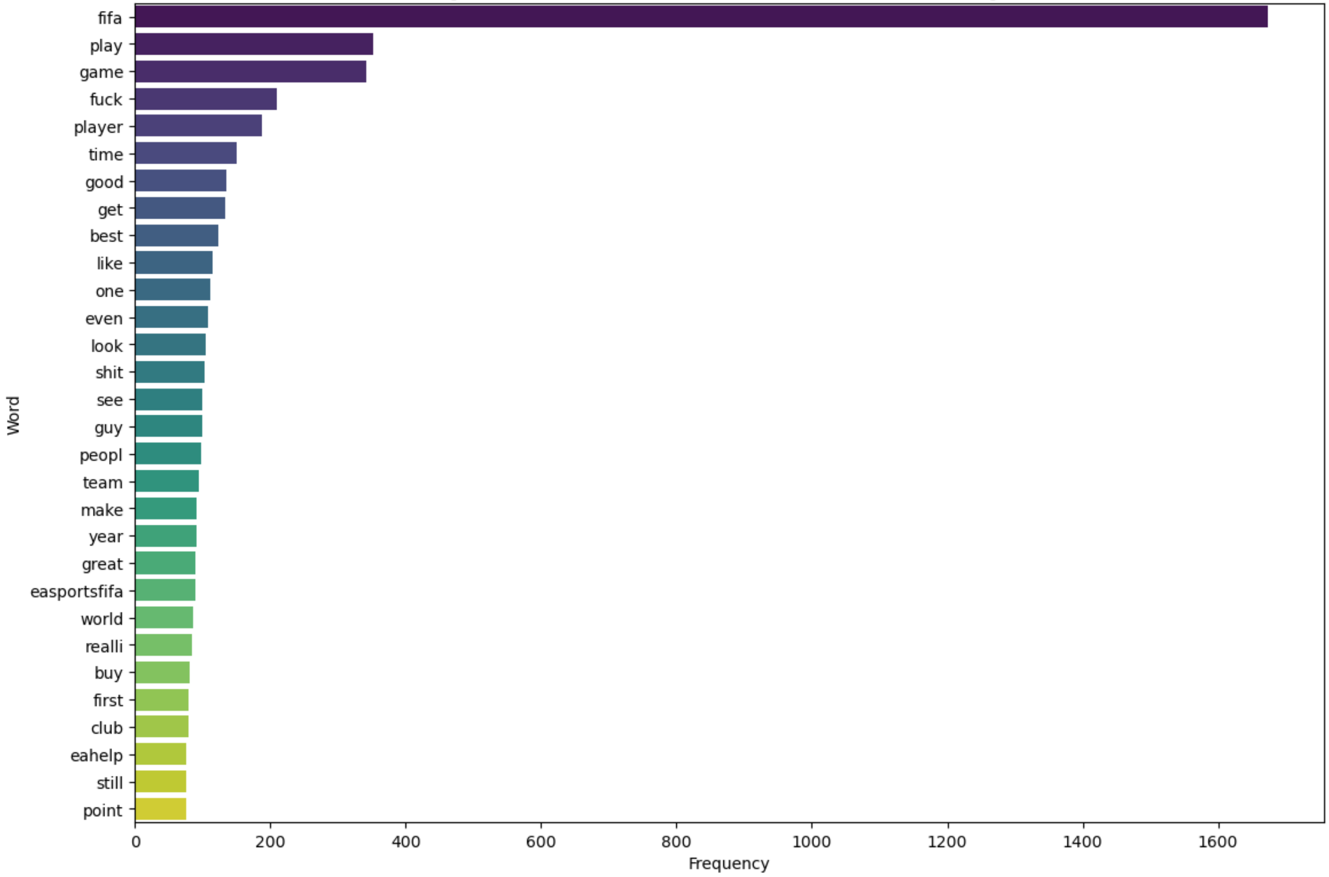




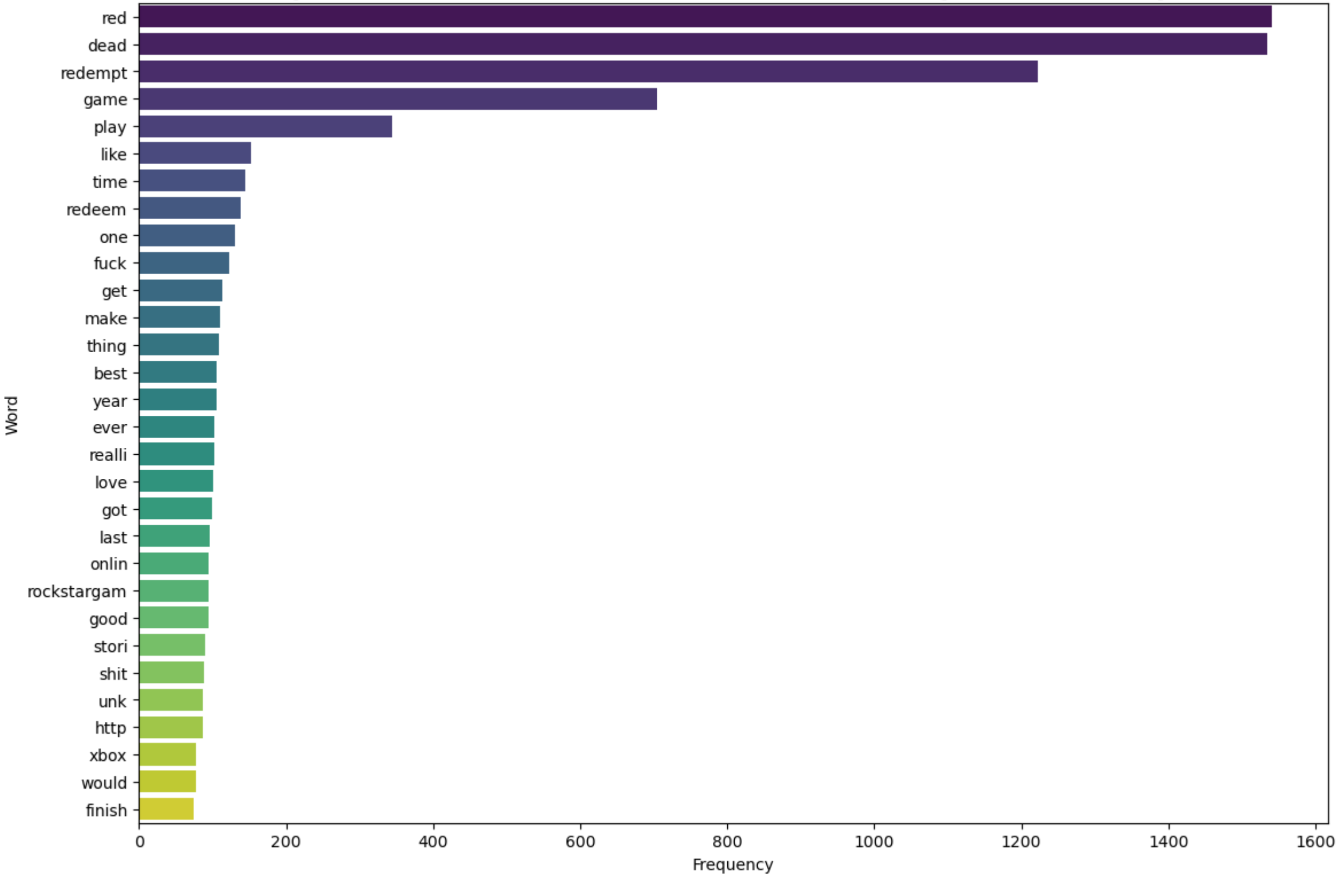

Top 30 Most Common Words in Verizon Corpus


Top 30 Most Common Words in HomeDepot Corpus

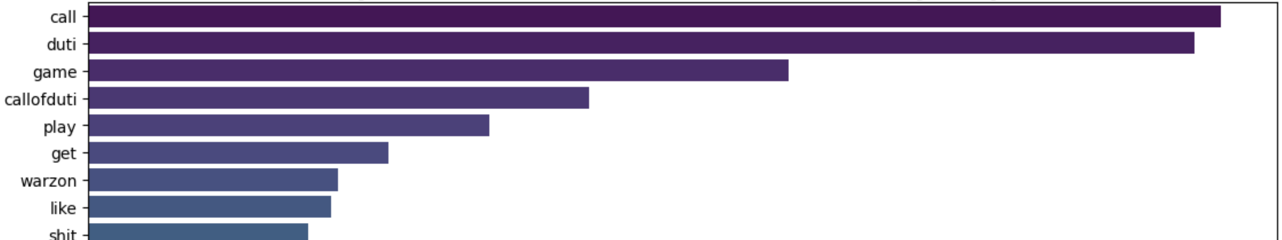
Top 30 Most Common Words in FIFA Corpus

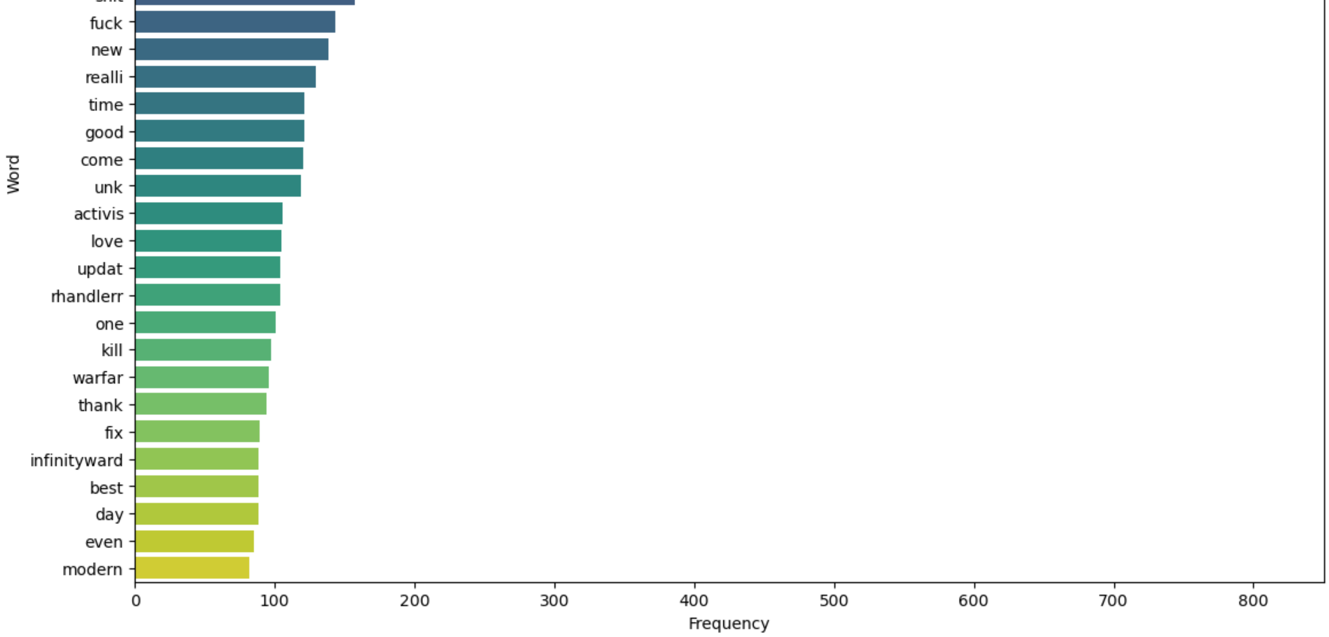


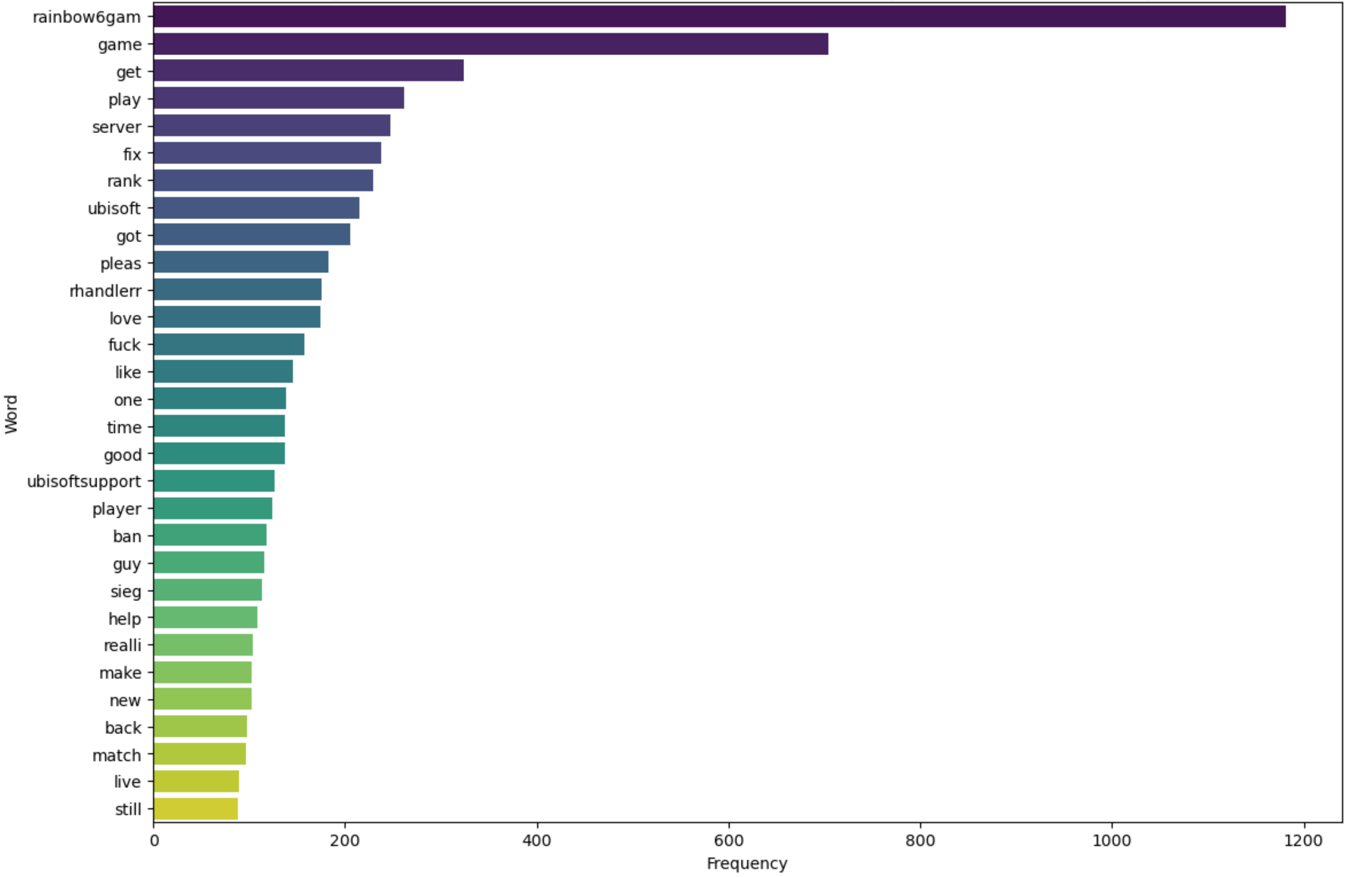
Top 30 Most Common Words in RedDeadRedemption(RDR) Corpus

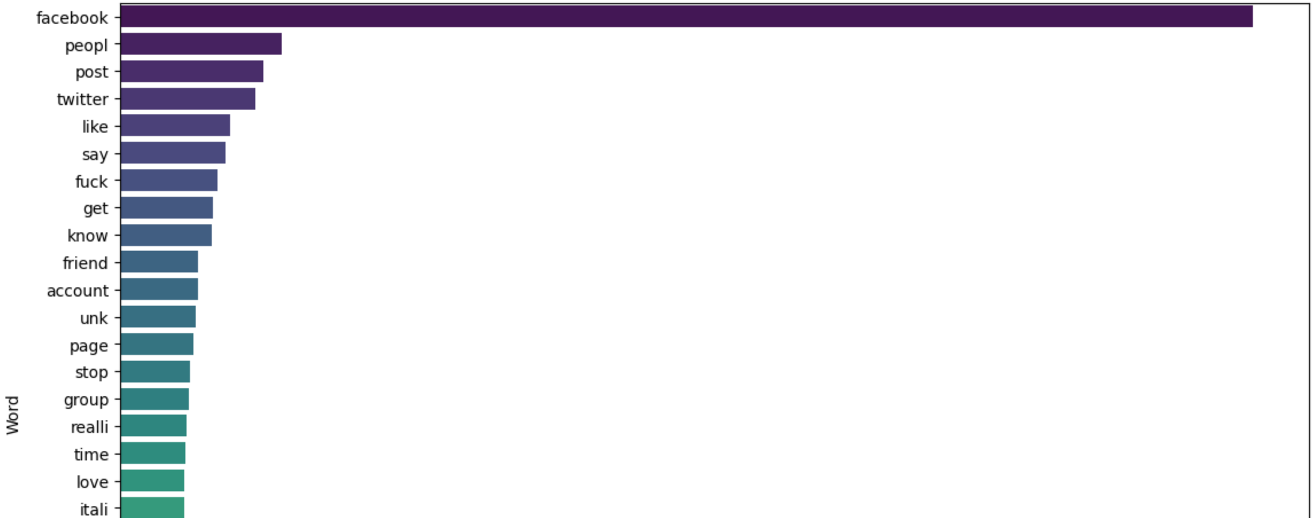


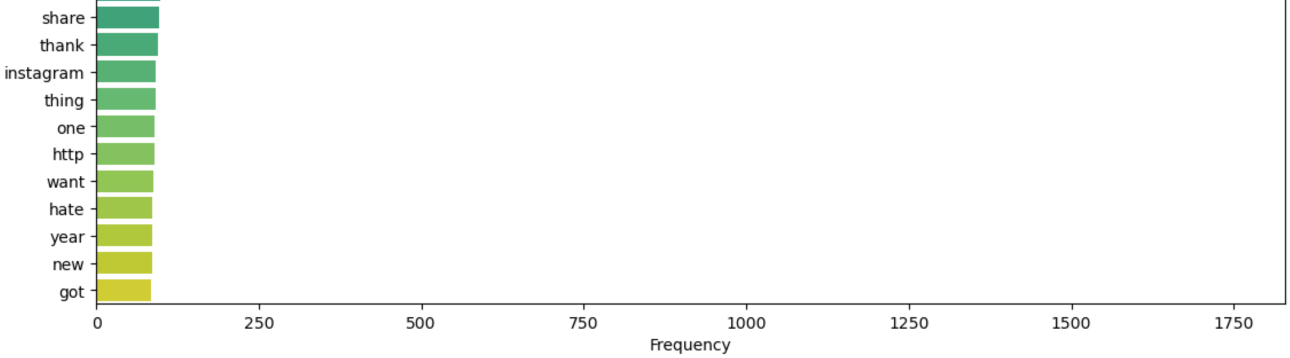
Top 30 Most Common Words in CallOfDuty Corpus



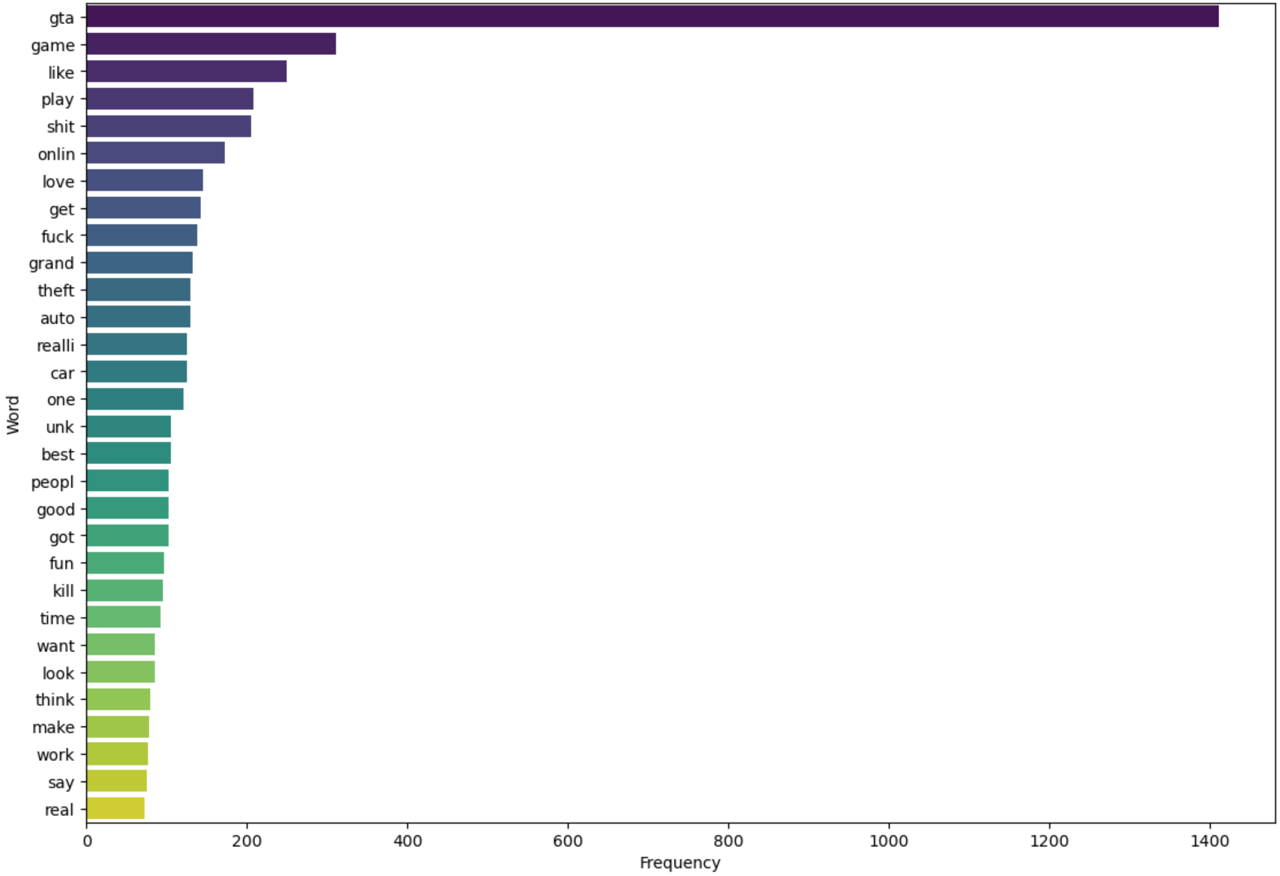



Top 30 Most Common Words in TomClancysRainbowSix Corpus

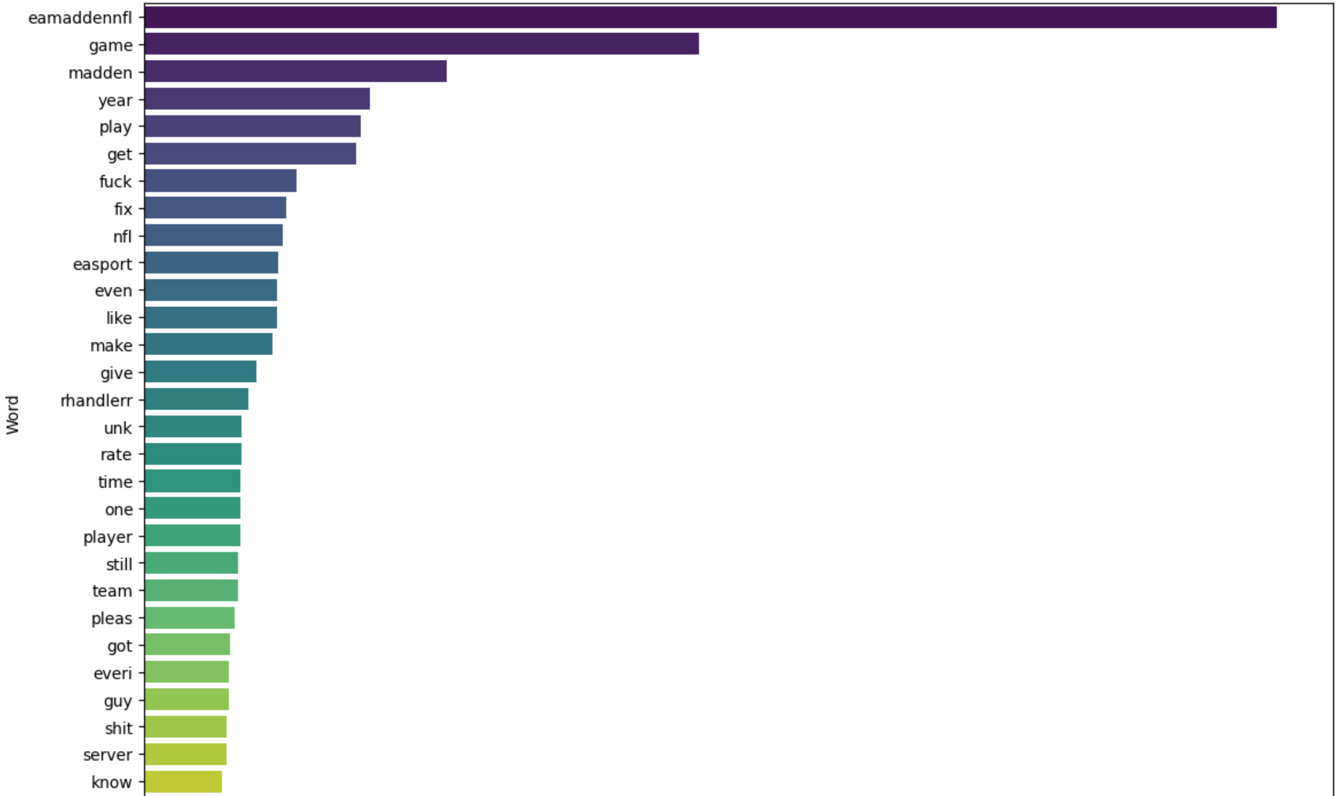

Top 30 Most Common Words in Facebook Corpus

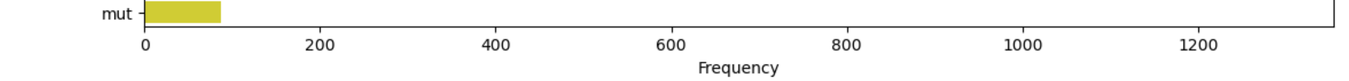


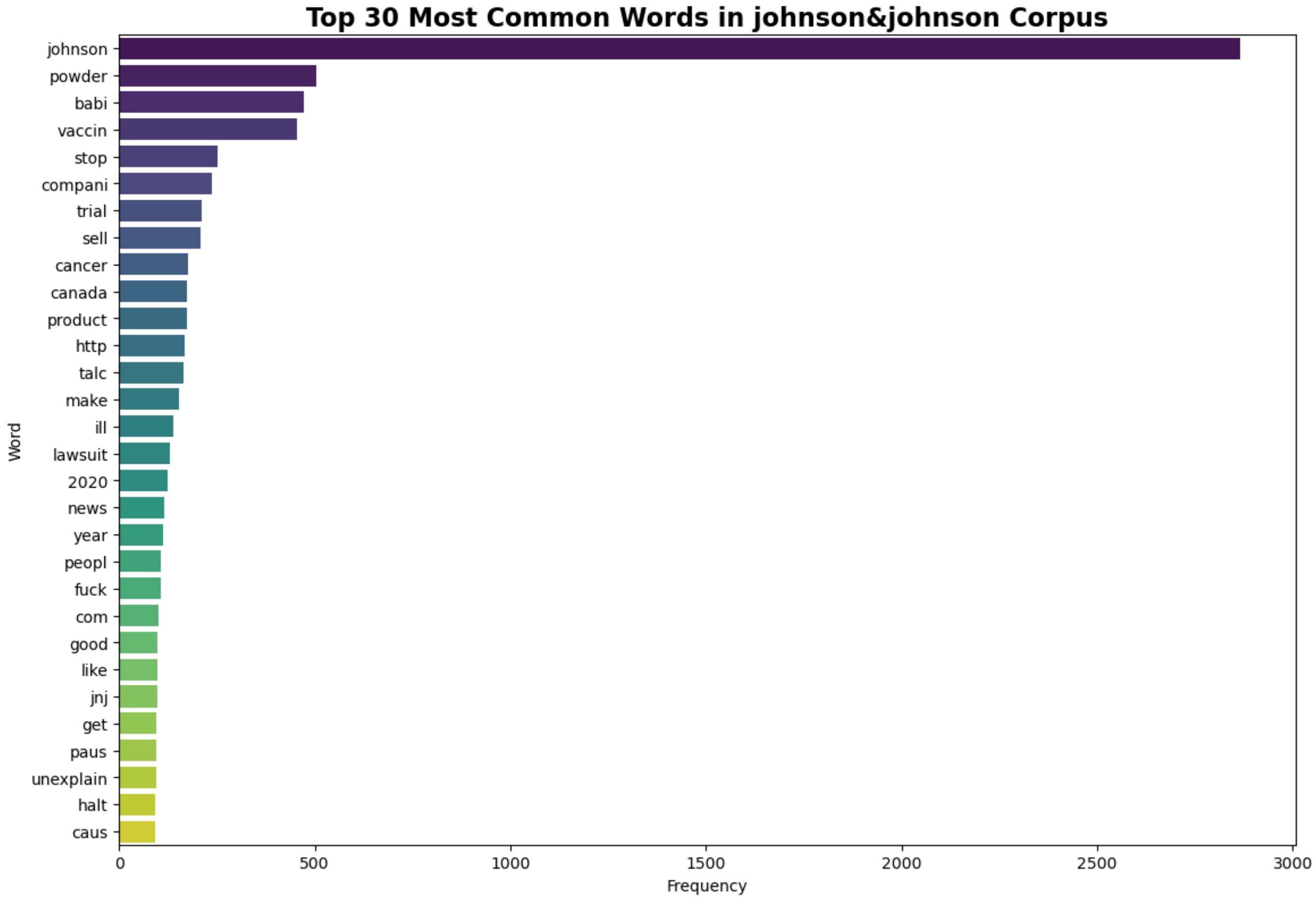
Top 30 Most Common Words in GrandTheftAuto(GTA) Corpus

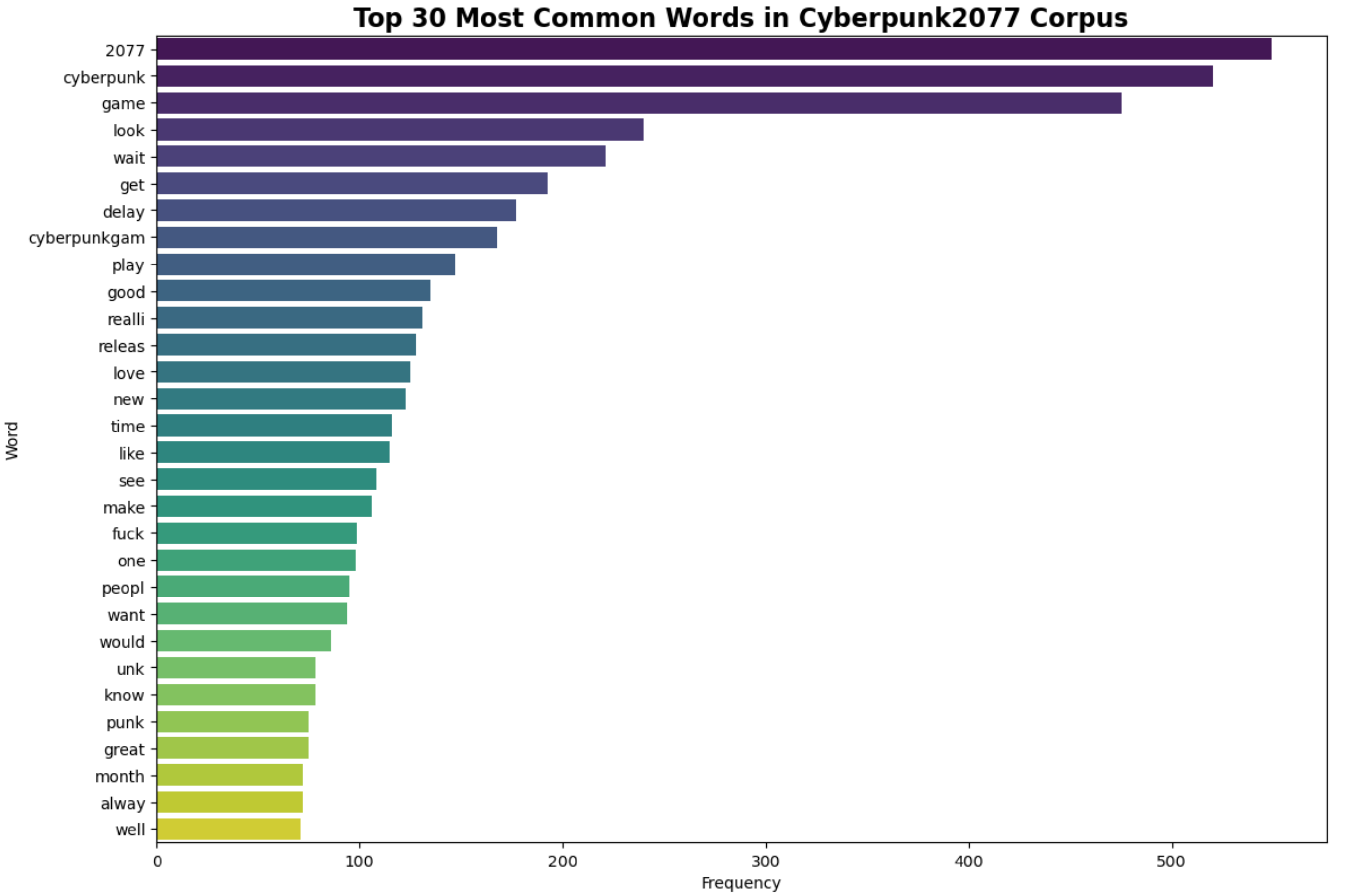


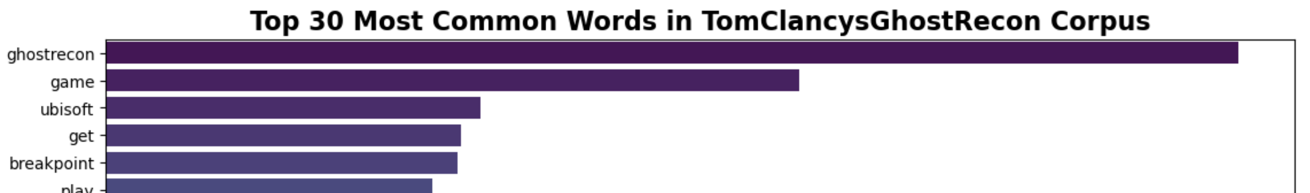
Top 30 Most Common Words in MaddenNFL Corpus

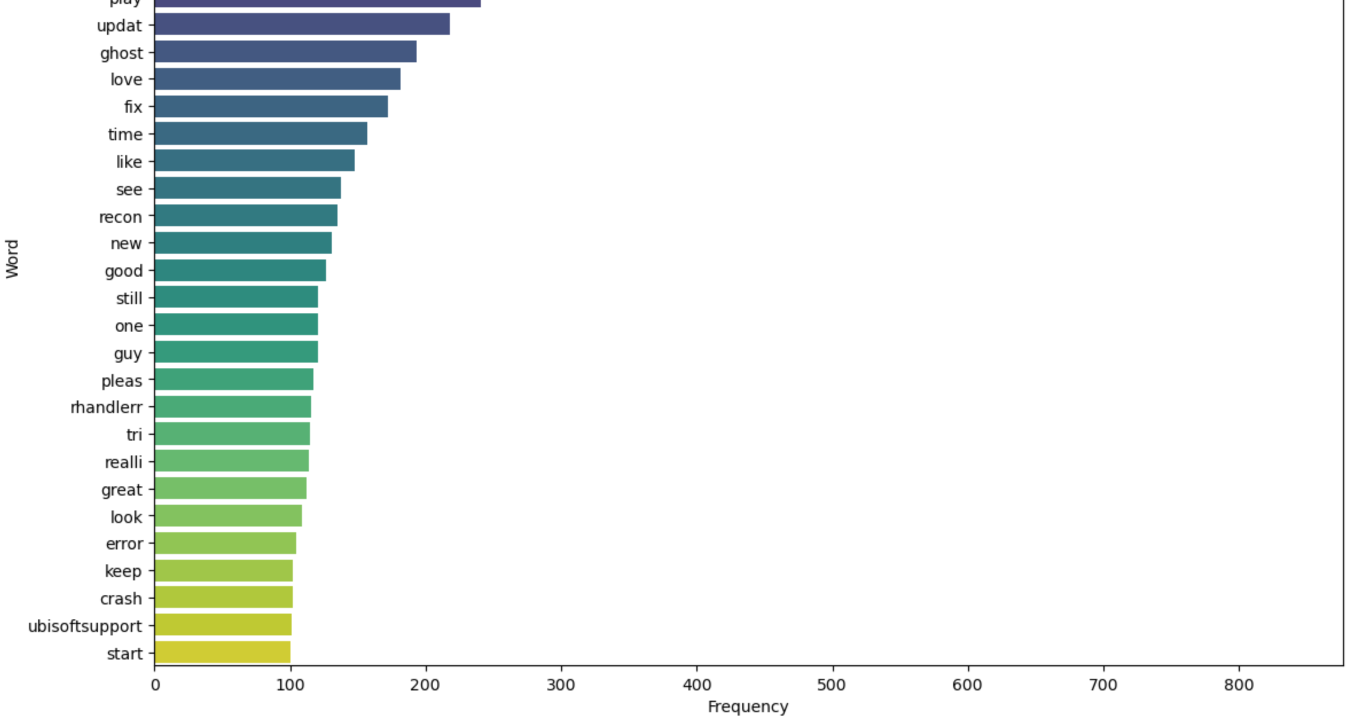


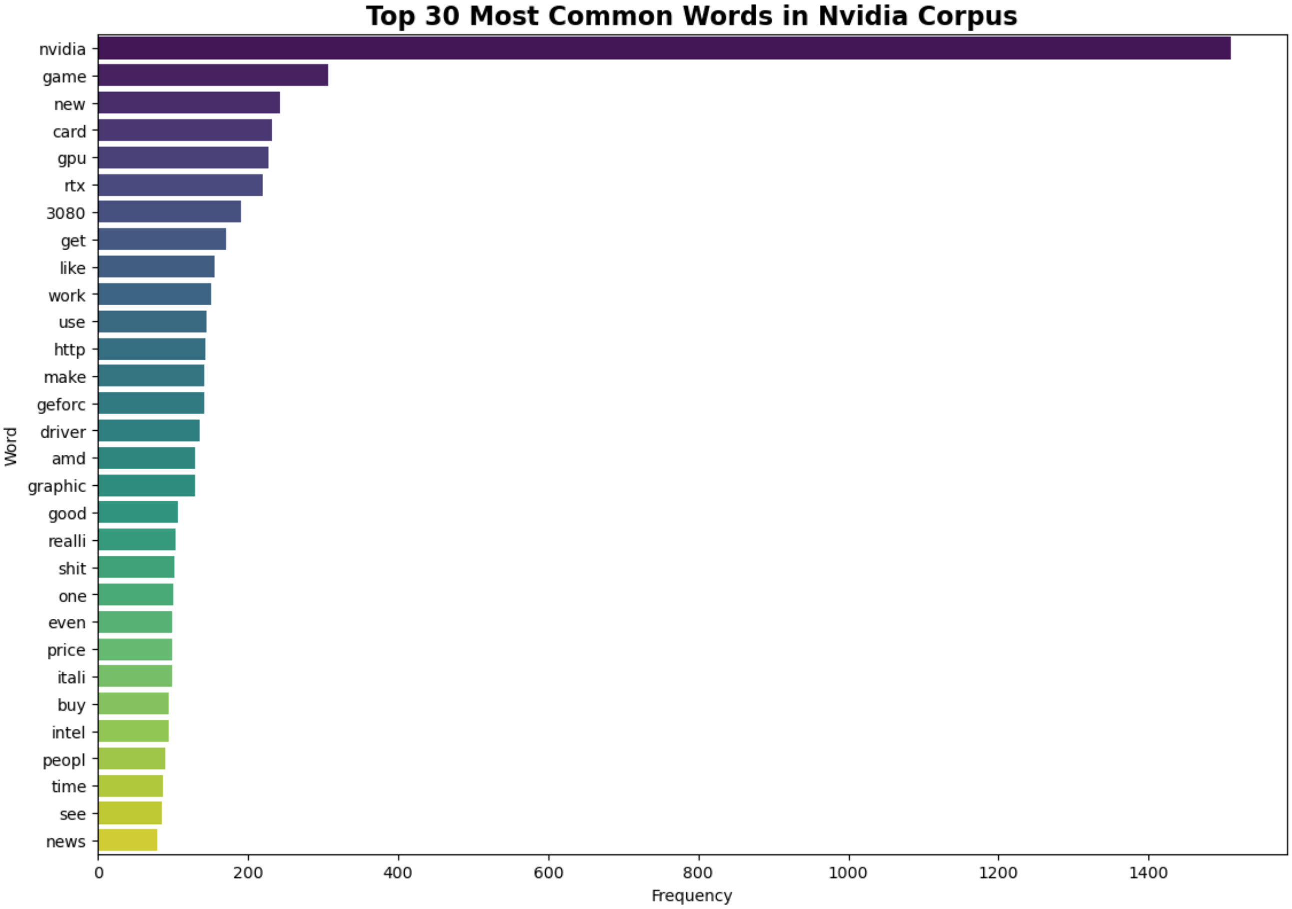



Top 30 Most Common Words in johnson&johnson Corpus


Top 30 Most Common Words in Cyberpunk2077 Corpus


Top 30 Most Common Words in TomClancysGhostRecon Corpus




Top 30 Most Common Words in Nvidia Corpus

In [ ]: