Tech Review:

Analyze and review of Google Ngram Viewer:

Ngram:

Ngram is a sequence of N Words, like unigram (probability of one word) and bigram (probability of two words) etc. Ngram can be a very useful tool when trying to figure out which words and phrases are used in English.

Google Ngram Viewer:

The Google Ngram Viewer or Google Books Ngram Viewer is an online search engine that charts the frequencies of any set of search strings using a yearly count of n-grams found in sources printed between 1500 and 2019 in Google's text corpora in English, Chinese (simplified), French, German, Hebrew, Italian, Russian, or Spanish. There are also some specialized English corpora, such as American English, British English, and English Fiction.

Uses of "Google Ngram Viewer" for analyzing history and literary works:

Author takes a literary case of "Frankenstein character" and analyzes the usage of word over the period between 1500 and 2000. Author explains about the reason for the spike in 1570 and 1730 and determines the use of "Google Ngram Viewer" in history and literature.

Using "Google Ngram Viewer" to find most favored character:

Author identifies the role of Frankenstein in horror and Gothic literature and using that try to find the most favored character.
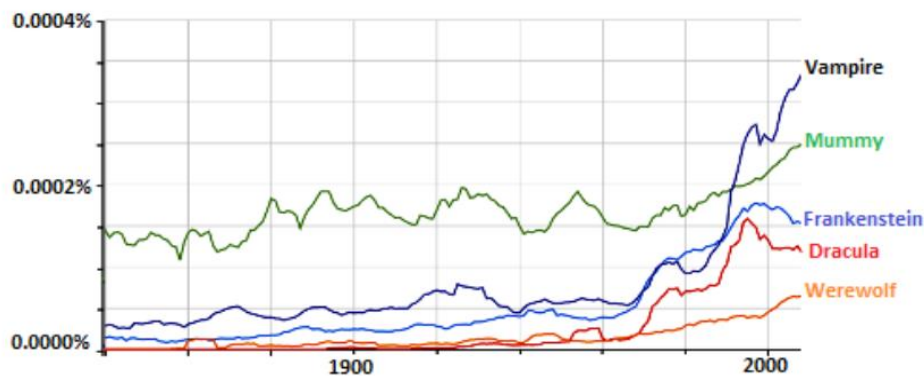
Figure 4: Google Ngram Viewer tells us the most favored character, among those we are considering. The Vampire wins, and in the plot we can see also the effect of Twilight novels.

Using "Google Ngram Viewer" to compare literature for children:

Author compares some literature of children identified using "Google Ngram Viewer".

Figure 5: In this time-series, Google Ngram Viewer is used to compare some literature for children. Note the interesting behavior of Harry Potter.

Use of Google Ngram Viewer in Scientific Referencing:

Author discusses the usage of "Google Ngram Viewer" in the specific fields of science.

Author discusses about liquid crystals and notices the general trend of decreasing research in the field of liquid crystals.

Use of "Google Ngram Viewer" to find link between two compounds:

"Google Ngram Viewer" can be used to find link between two compounds, because same compounds can have two names depending on the use made of it. Link between Silicon Carbide and Carborundum has been found using "Google Ngram Viewer".

Figure 7: The same compound has two names depending on the use made of it.

Use of "Google Ngram Viewer" to find the dominating compound over a period:

"Google Ngram Viewer" can be used to find the dominating compound on a certain period. Author identifies "Silicon" has dominated for a period of 20 years, which is the age of Silicon.

Figure 8: Some materials and the age of Silicon, when it was more important than diamond.

How to Use Google Ngrams:

To generate an n-gram in the Google Ngram viewer:
- Go to the Ngram Viewer webpage.
- Enter the terms you want to compare, separated by a comma.
- If required, select the dates you want to check between (the default is 1800 to 2008) and the corpus you want to check (e.g., English, American English, British English).
- Hit "search lots of books" to produce a graph featuring your selected terms.

We can also adjust the "smoothing" option before searching, but this only affects the presentation of the graph, and the default setting is fine for most searches.

References:

https://www.researchgate.net/publication/286134641_Using_Google_Ngram_Viewer_for_Scientific_Referencing_and_History_of_Science