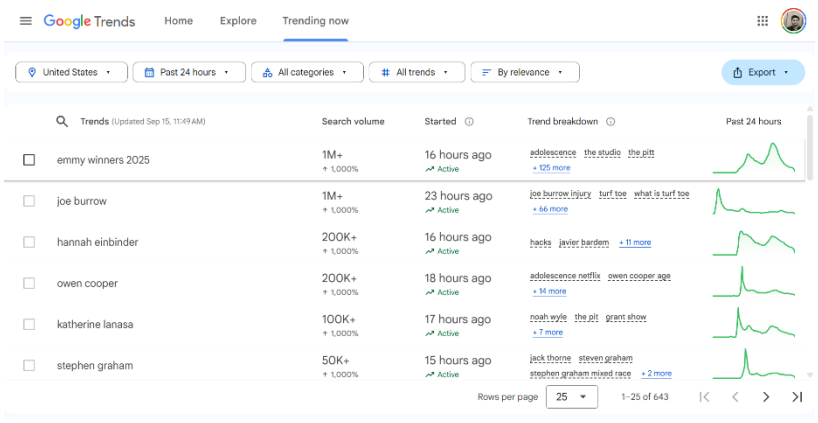
Md Nakir Ahmed

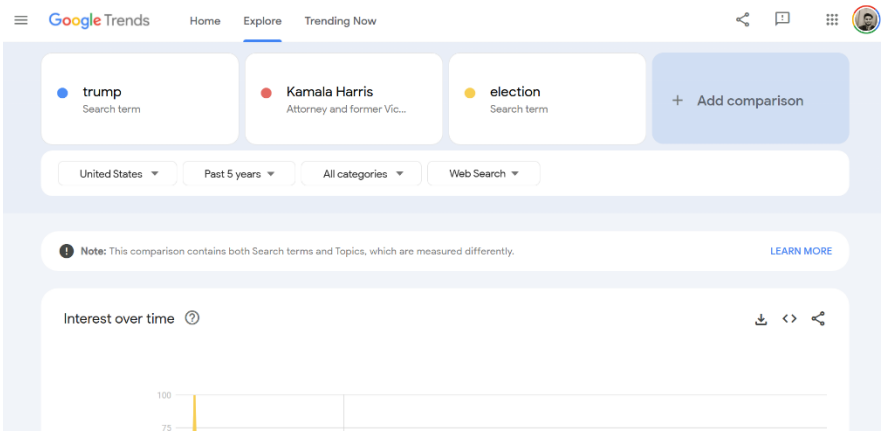
Google Trends data

a. Use Google Trends website (https://trends.google.com/home) to:



This shows the Google Trends "Trending Now" dashboard for the United States in the past 24 hours. It lists currently popular searches such as "emmy winners 2025" and "joe burrow", with estimated search volume, when the trend started, and a small sparkline of activity over time. I first looked at the live trending topics page to see how Google Trends data appears for different terms.

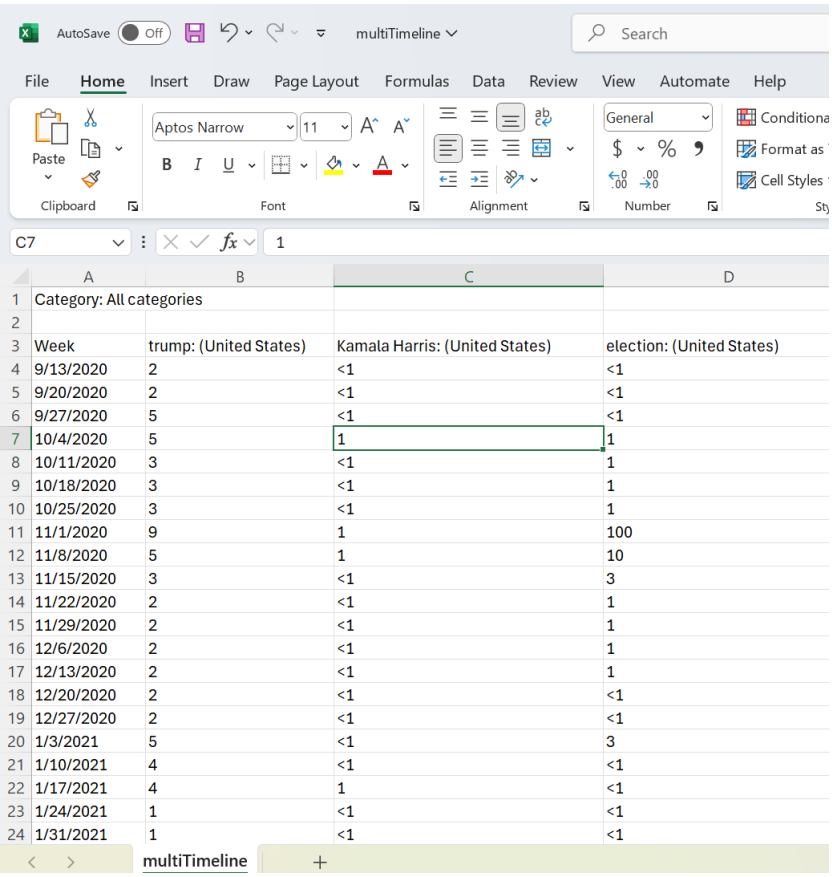
i. Search Trump, Kamala Harris and Election



Here, I entered "Trump, Kamala Harris, and Election" as search terms in Google Trends, limited to the United States, past 5 years, and web search. The comparison allows me to see their relative popularity in search interest over time. I used the Explore tool to compare multiple terms of interest over the past five years.

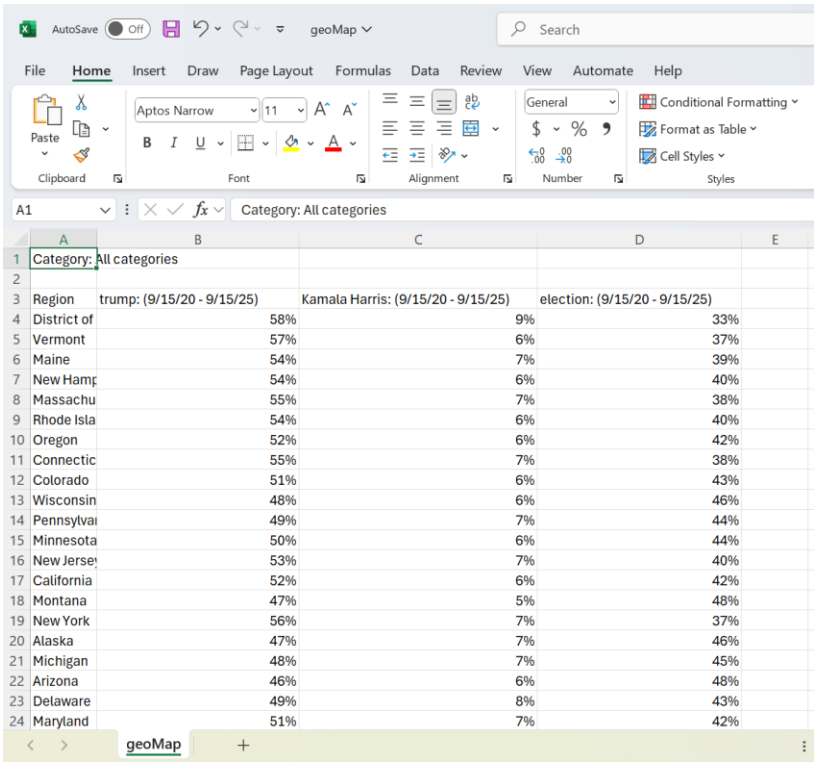
ii. Download the data

This is the downloaded CSV file (multiTimeline.csv) that opened in Excel. It contains weekly search interest scores for Trump, Kamala Harris, and Election from September 2020 to September 2025. The scores are normalized (0–100), where 100 represents peak popularity. I exported the raw time series data and opened it to examine how search interest changes week by week.



	A	B	C	D
1	Category: All categories			
2				
3	Week	trump: (United States)	Kamala Harris: (United States)	election: (United States)
4	9/13/2020	2	<1	<1
5	9/20/2020	2	<1	<1
6	9/27/2020	5	<1	<1
7	10/4/2020	5	1	1
8	10/11/2020	3	<1	1
9	10/18/2020	3	<1	1
10	10/25/2020	3	<1	1
11	11/1/2020	9	1	100
12	11/8/2020	5	1	10
13	11/15/2020	3	<1	3
14	11/22/2020	2	<1	1
15	11/29/2020	2	<1	1
16	12/6/2020	2	<1	1
17	12/13/2020	2	<1	1
18	12/20/2020	2	<1	<1
19	12/27/2020	2	<1	<1
20	1/3/2021	5	<1	3
21	1/10/2021	4	<1	<1
22	1/17/2021	4	1	<1
23	1/24/2021	1	<1	<1
24	1/31/2021	1	<1	<1

This is the geoMap.csv file showing regional breakdown of search interest across U.S. states and the District of Columbia. For example, Trump has the highest search share in the District of Columbia (58%), while Harris and Election show different regional distributions. I downloaded the regional dataset to examine how interest differs geographically across U.S. states.



	A	B	C	D
1	Category: All categories			
2				
3	Region	trump: (9/15/20 - 9/15/25)	Kamala Harris: (9/15/20 - 9/15/25)	election: (9/15/20 - 9/15/25)
4	District of	58%	9%	33%
5	Vermont	57%	6%	37%
6	Maine	54%	7%	39%
7	New Hamp	54%	6%	40%
8	Massachu	55%	7%	38%
9	Rhode Isla	54%	6%	40%
10	Oregon	52%	6%	42%
11	Connectic	55%	7%	38%
12	Colorado	51%	6%	43%
13	Wisconsin	48%	6%	46%
14	Pennsylva	49%	7%	44%
15	Minnesota	50%	6%	44%
16	New Jerse	53%	7%	40%
17	California	52%	6%	42%
18	Montana	47%	5%	48%
19	New York	56%	7%	37%
20	Alaska	47%	7%	46%
21	Michigan	48%	7%	45%
22	Arizona	46%	6%	48%
23	Delaware	49%	8%	43%
24	Maryland	51%	7%	42%

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1. Analyze the data

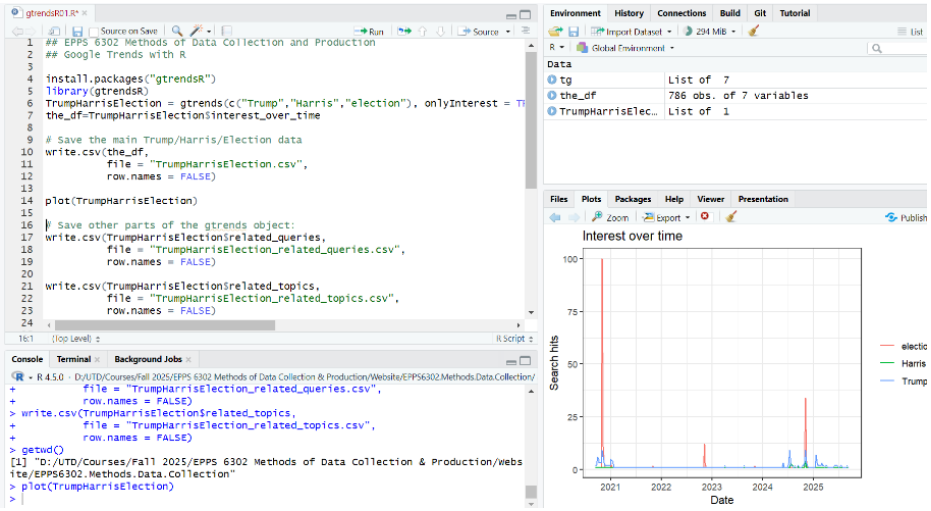
a. Dates

The dataset covers the period from September 13, 2020, to September 15, 2025, providing a five-year weekly time series. This ensures that both election cycles and major political events are included in the analysis.

b. Intervals

The time series is organized into weekly intervals. Each row represents a single week, with relative interest scores for Trump, Kamala Harris, and Election. Weekly aggregation smooths short-term fluctuations while still capturing spikes around key events such as elections or debates.

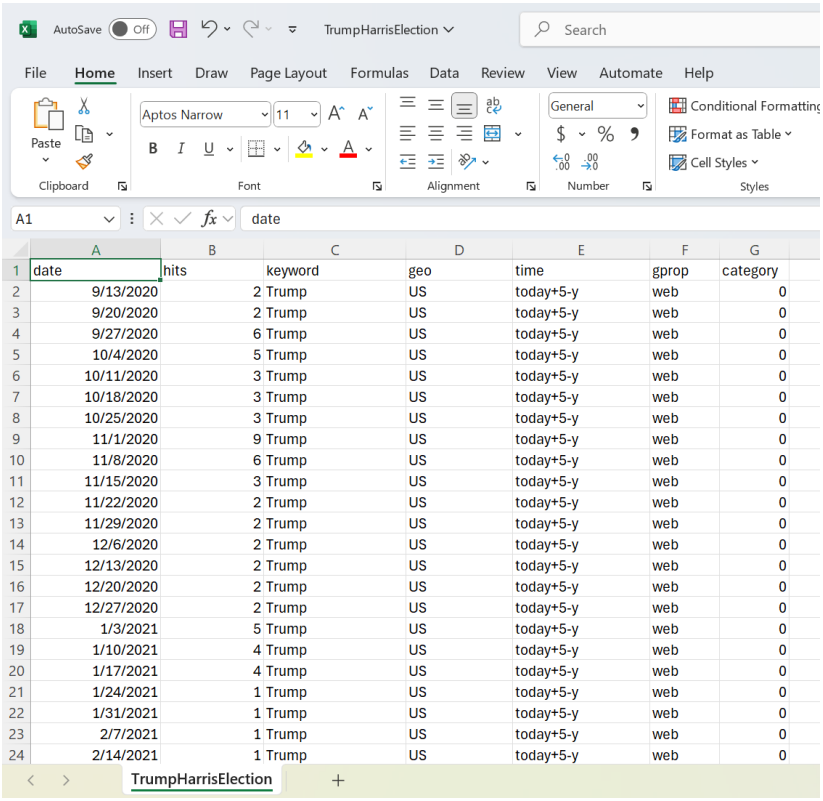
b. Use gtrendsR package to collect data (use gtrendsR01.R program)



This shows the R script (gtrendsR01.R) where the `gtrends()` function is used to fetch Google Trends data for Trump, Harris, and Election over the last 5 years in the U.S. The results are stored in the_df, saved to CSV, and plotted. The plot window displays the interest overtime graph with three lines representing the search terms.

c. Save the data into csv and R formats.

This is the CSV file saved directly from R (write.csv). Each row contains the date, hits (interest values), the keyword, and metadata (geo, time, gprop, category). Unlike the Google Trends export, this file is already in "tidy" format with one keyword per row, which is easier to use in R.



	A	B	C	D	E	F	G
1	date	hits	keyword	geo	time	gprop	category
2	9/13/2020	2	Trump	US	today+5-y	web	0
3	9/20/2020	2	Trump	US	today+5-y	web	0
4	9/27/2020	6	Trump	US	today+5-y	web	0
5	10/4/2020	5	Trump	US	today+5-y	web	0
6	10/11/2020	3	Trump	US	today+5-y	web	0
7	10/18/2020	3	Trump	US	today+5-y	web	0
8	10/25/2020	3	Trump	US	today+5-y	web	0
9	11/1/2020	9	Trump	US	today+5-y	web	0
10	11/8/2020	6	Trump	US	today+5-y	web	0
11	11/15/2020	3	Trump	US	today+5-y	web	0
12	11/22/2020	2	Trump	US	today+5-y	web	0
13	11/29/2020	2	Trump	US	today+5-y	web	0
14	12/6/2020	2	Trump	US	today+5-y	web	0
15	12/13/2020	2	Trump	US	today+5-y	web	0
16	12/20/2020	2	Trump	US	today+5-y	web	0
17	12/27/2020	2	Trump	US	today+5-y	web	0
18	1/3/2021	5	Trump	US	today+5-y	web	0
19	1/10/2021	4	Trump	US	today+5-y	web	0
20	1/17/2021	4	Trump	US	today+5-y	web	0
21	1/24/2021	1	Trump	US	today+5-y	web	0
22	1/31/2021	1	Trump	US	today+5-y	web	0
23	2/7/2021	1	Trump	US	today+5-y	web	0
24	2/14/2021	1	Trump	US	today+5-y	web	0

d. What are the differences between the two methods?

The Google Trends website export is quick and easy to use but comes in a wide format with <1 values, which requires extra cleaning before analysis. In contrast, the gtrendsR export is generated directly in R, already in a tidy format with additional metadata (geo, time range, search type), making it more reproducible and better suited for statistical analysis and visualization. Overall, the R method is more powerful for systematic research, while the website method is more convenient for quick checks.