

ASTRA MIDPOINT REVIEW

The Need For This Project

- Creators on Instagram, Facebook, and Threads depend on trend-driven content to stay relevant and grow their audience.
- Emerging trends often start on external platforms like Twitter/X, TikTok, YouTube, and Reddit.
- Meta creators struggle to detect and respond to these trends early due to lack of visibility.
- There is no unified system that identifies, contextualizes, and recommends relevant trends specifically for Meta platforms.
- A platform-specific solution is needed to aggregate cross-platform signals and align them with Meta's content behavior.

Creators on Meta platforms need a unified system that detects and contextualizes emerging trends from external sources to enable timely, strategic content creation.

Project Vision and Mission

- Enable Meta creators to stay ahead of trends with real-time, intelligent insights.
- Build an autonomous system that discovers, ranks, contextualizes, and translates cross-platform trends into actionable content strategies for Meta platforms.

Empowering Content Creation

Cross-platform trend tracking

Develop trend agents that monitor Twitter/X, Reddit, YouTube, and TikTok, structured for Meta-specific content discovery.

Ranking and Trend Classification

Leverage embeddings, LLMs, and weighted aggregation to turn trend signals into ranked, contextual recommendations for Meta platforms.

Content Strategies and Insights

Support content creators with an intuitive dashboard, personalized insights, and automated topic mapping aligned to their audience.

Overall Methodology

Data Collection

Extracted Text data from multiple platforms

- YouTube: official API
- Reddit: official API
- Google Trends: official API
- Twitter: 3rd Party API
- Tiktok: 3rd Party API

Save all data into csv files

Automated collecting process with Github Actions

LangChain Workflow

NLP Processing & LLM Topic Labeling

Consolidating Data & Aggregating Metrics

Cluster & Semantic Analysis

Finalizing Trend Scores

Web Dashboard

Web interactive dashboard

Show global trends on the landing page: **compare trends across platforms**

Dynamic filtering for deeper insights

1. Categorize by topic clusters and contents type
2. Visualize results
3. Contents Strategy Recommendation

Data & Ranking Methodology – Google Trends

Google Trends - Official API

2 datasets

top_rising_terms (selection)

- Up to 200 terms pulled every day of popular rising trends
 - Coverage_Ratio (Ratio of DMAs where the term appears. Usually 1.)
 - Median_Gain (how popular it is compared to last week)
 - Spread_Intensity (Coverage_Ratio X Median_Gain) * Ranking*

top_terms (validation)

- Up to 200 terms pulled every day of current popular terms
 - avg_rank (average rank of term in each dma on that certain day. Top 25 terms)
 - score (Sum of Google ranking scores, 0-100 scale, across DMAs)
- Using \$300 of cloud credits to run vs scripts of roughly 10 MB per bot action.

trend_rising.csv

	A	B	C	D	E
1	term	dma_hits	coverage_ratio	median_gain	spread_intensity_score
2	camp mystic	210	1	15650	15650
3	diogo jota	210	1	13600	13600
4	texas flooding	210	1	11850	11850
5	michael madsen	210	1	9550	9550
6	lanthanum	210	1	5400	5400
7	atria	210	1	4450	4450
8	camp mystic texas	210	1	4350	4350
9	sophocles	210	1	3650	3650
10	guadalupe river	210	1	3350	3350
11	flooding in texas	210	1	3200	3200
12	oedipus	210	1	2700	2700
13	lanthanum meaning	210	1	2500	2500
14	kerrville flooding	210	1	2400	2400
15	atria meaning	210	1	2400	2400
16	julian mcmahon	210	1	2350	2350
17	cuatro de julio	210	1	2300	2300
18	sophia hutchins	210	1	2300	2300
19	kerrville tx	210	1	1900	1900
20	shylock	210	1	1900	1900
21	psg bayern	210	1	1850	1850
22	real madrid dortmund	210	1	1850	1850
23	inter miami montréal	210	1	1850	1850
24	musiala	210	1	1800	1800
25	mcdonald's big announcement	210	1	1800	1800
26	texas flood	210	1	1800	1800
27	hot dog eating contest	210	1	1750	1750
28	psg vs bayern	210	1	1500	1500
29	bobby jenkins	210	1	1500	1500
30	astros vs dodgers	210	1	1350	1350

trend_top.csv

	A	B	C	D	E
1	term	dma_hits	avg_rank	total_score	coverage_ratio
2	casey anthony	210	16	100	1
3	fluminense vs al-hilal	210	2	100	1
4	france vs england	210	17	100	1
5	gavin mckenna	210	22	100	1
6	jamal musiala	210	3	100	1
7	jane birkin	210	5	100	1
8	jim curtis	210	16	100	1
9	tamar brown	210	13	100	1
10	lyndon byers	210	8	100	1
11	lynx vs mercury	210	8	100	1
12	matt kuchar	210	20	100	1
13	microsoft outlook outage	210	7	100	1
14	monica barbaro	210	10	100	1
15	mosie burks	210	17	100	1
16	mp materials stock	210	12	100	1
17	national fried chicken day 2025 deals	210	9	100	1
18	nato scrambles fighter jets	210	13	100	1
19	nvidia	210	4	100	1
20	oasis settlist	210	25	100	1
21	pirates vs mariners	210	17	100	1
22	red sox vs nationals	210	13.261905	100	1
23	rob mcelhenney	210	12	100	1
24	ryan louis mosqueda	210	18	100	1
25	sabalenka	210	3	100	1
26	scottish open leaderboard	210	20	100	1
27	shane van gisbergen	210	16	100	1
28	snack wrap	210	24	100	1
29	storm vs sun	210	18	100	1
30	supreme court trump	210	22	100	1

Data & Ranking Methodology – Twitter / X

■ Data Source

- Trends are extracted from Trends24.in, which aggregates real-time trending topics from Twitter/X across multiple regions.
- Scraping is done using requests and BeautifulSoup without browser automation, enabling lightweight, repeatable execution.

■ Data Collected per Trend

- **Trend Name** – Trending keyword or hashtag
- **Rank** – Original position in the regional trend list
- **Top Position** – Highest rank attained during trend visibility
- **Tweet Count** – Number of tweets associated with the trend (if available)
- **Duration** – Time (in hours) the trend remained active
- **Region** – Geographic location (e.g., US, India, Brazil)
- **Timestamp** – Time of data extraction

■ Re-ranking Methodology

- Although trends are initially ranked on Trends24, we re-rank them using a normalized score for consistency and comparability across datasets.
- Normalized Score is computed using min-max scaling within a region

■ Automation

- Deployed via GitHub Actions for scheduled execution (for every 6 hours)

Rank	Trending Topic	Top Position	Tweet Count	Duration
1	Cclipse	2	914,453	18 hrs
2	Justin Bieber	1	3,926,405	14 hrs
3	Pharrell	5	102,920	8 hrs
4	So Be It	6	2,185,088	8 hrs
5	Marijuana	14	771,223	9 hrs
6	Malice	9	135,503	8 hrs
7	Giveon	11	10,882	8 hrs
8	#LetGodSortEmOut	2	240	6 hrs
9	#SWAG	2	274,108	8 hrs
10	Superman	5	2,642,631	8 hrs
11	The Birds Don't Sing	14	240	8 hrs
12	Sweet Spot	14	10,902	7 hrs
13	blackpink	5	5,292,341	5 hrs
14	Good Friday	2	174,356	4 hrs
15	Druski	16	435,495	8 hrs

Data & Ranking Methodology - TikTok

1. TikTok Trend Page

TikTok

Creative Center

Inspiration

Trends

Creative Tools

English

Log in

Hashtags

Songs

Creators

TikTok Videos

Rank	Hashtags	Posts	Trend	Creators	Actions
1 ↑5	#4thofjuly Featured	717K Posts		No related creator	See analytics
2 ↑6	#squidgameedit News & Entertainment	38K Posts			See analytics
3 NEW	#chelley News & Entertainment	21K Posts		No related creator	See analytics
4 NEW	#shiningnikki Games	42K Posts		No related creator	See analytics
5 ↑11	#fourthofjuly	266K Posts		No related creator	See analytics
6 NEW	#amayapapaya News & Entertainment	62K Posts		No related creator	See analytics

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<https://ads.tiktok.com/business/creativecenter/hashtag/shiningnikki/pc/en>

- This page shows the hashtag trend on Tiktok in the US for the last 7 days
 - Hashtags
 - Post quantity

2. Scrap videos from hashtag page

United States X (Twitter) Trends for last 24 hours

Timeline Tag Cloud Table

just now	1 hour ago	3 hours ago	5 hours ago
1 #EMME 10K	1 #AEWAllInTexas 10K	1 #AEWAllInTexas 10K	1 #AEWAllInTexas 10K
2 #Thattingit 10K	2 #UFCNashville 10K	2 #Klay 10K	2 Adam Cole 10K
3 #Shakar 10K	3 #Klay 10K	3 #Athens 10K	3 Carter Bryant 10K
4 #eth 10K	4 #EMME 10K	4 Adam Cole 10K	4 Dustin 10K
5 Goldberg 10K	5 #Marrell 10K	5 Carter Bryant 10K	5 #WWEGAB 10K
6 #SaturdayNightMainEvent 10K	6 #Okada 10K	6 Dustin 10K	6 #Reale 10K
7 #UFCNashville 10K	7 Toni 10K	7 #WWEGAB 10K	7 Fletcher 10K
8 #AEWAllInTexas2025 10K	8 Valer Walker 10K	8 Opway 10K	8 Juice Robinson 10K
9 Counter 10K	9 Pate 10K	9 Garrett Crochet 10K	9 Byron Buxton 10K
10 #Matis 10K	10 #Athens 10K	10 #Reale 10K	10 Boyd 10K

- Gather trending hashtags from Trends 24 page

- Scrap 10 videos per trending hashtag
 - Hashtags
 - Video Link
 - Description
 - Likes
 - Comments
 - Shares
 - Views
 - Scraped time

```
{
  "hashtag": "AT0BTTR",
  "url": "https://www.tiktok.com/@sam.hill/video/7519713672151698701",
  "description": null,
  "likes": "105",
  "comments": "7",
  "shares": "10",
  "views": null,
  "scraped_at": "2025-06-30T17:53:56.182968-04:00"
},
{
  "hashtag": "AT0BTTR",
  "url": "https://www.tiktok.com/@cincinnati.enthusiast/video/7245893024553717035",
  "description": null,
  "likes": "28.2K",
  "comments": "428",
  "shares": "1971",
  "views": null,
  "scraped_at": "2025-06-30T17:54:03.643699-04:00"
},
{
  "hashtag": "AT0BTTR",
  "url": "https://www.tiktok.com/@benson.prod/video/7261374780354350382",
  "description": null,
  "likes": "9",
  "comments": "1",
  "shares": "Share",
  "views": null,
  "scraped_at": "2025-06-30T17:54:11.013471-04:00"
}
```

Data - YouTube

Automatically fetch and analyze trending videos across 8 regions (US, IN, GB, CA, DE, JP, BR, AU) using YouTube Data API v3

Data Pulled per Video:

- **Metadata:** Video ID, Title, Description, Channel Info (Title, ID), Region Code (Country level), Published Date, Tags, Category
- **Performance Stats:** Views, Likes, Comments
- **Derived Metrics for Detecting Trends:**
 - Video Age (Hours), Duration (Seconds), Is Short (≤ 60 s)
 - View/Like/Comment Velocity (per hour)
 - Like-to-View Ratio (%)
- **Channel Insights:** Subscriber Count, Channel Creation Date, Description

Video ID	Title	Channel Title	Channel ID	Region Code	Published At	Video Age (H)	Duration (S)	Is Short	Category ID	Tags	View Count	Like Count	Comment C	View Velocity	Like Velocity	Comment V	Like-to-View	Subscriber C	Channel Put	Description
5B7hEY7z15	My Daughter's Secret Crush	Jordan Matter	UCKaCalsN	US	2025-07-12	22	1894	FALSE	24	salish matter	4430010	81858	12610	201364.1	3720.82	573.18	1.85	30500000	2006-12-21	Can you
4dFtQJ9aUk	YoungBoy Never Broke Again - Kickboxer [Official Music Video]	YoungBoy Never Broke Again	UCW4jraMK	US	2025-07-11	37	215	FALSE	10	YoungBoy Ni	934782	82409	9765	25264.38	2227.27	263.92	8.82	14400000	2015-01-04	YoungBoy
CgCVZ5ckKc	BLACKPINK - 'Aïo' (feat. JAY-Z) MV	BLACKPINK	UCOmHUn-	US	2025-07-11	56	194	FALSE	10	YG Entertain	43737718	3953480	339198	781030.7	70597.86	6057.11	9.04	97600000	2016-06-29	BLACKPINK
1jPlu3SSzBTI	Found Village: City In Minecraft	PrestonPlayz	UCIZam2u1	US	2025-07-12	22	1205	FALSE	20	minecraft.pr	575465	6714	661	26157.5	305.18	30.05	1.17	16800000	2018-03-13	AsOfThe
q8EQB0822I	I Fixed My AMG GT R For FREE & Discovered	LegitStreetCars	UCT-2OPZtE	US	2025-07-12	23	3072	FALSE	2	legitstreetcar	534296	43319	3219	23230.26	1883.43	139.96	8.11	1350000	2016-04-20	Check out
hQ85eQhJgI	I Built a Mega Fish Tank (for the coolest fish)	TerraGreen	UCKYVerz4P	US	2025-07-12	23	825	FALSE	15	aquarium.aq	650598	11410	1216	28286.87	496.09	52.87	1.75	2290000	2023-09-20	Support my
GrpKGUer6E	Escaping 1,000 Layers GANT WATER BALLO	Unspeakeable	UCwIWAbieL	US	2025-07-12	21	1664	FALSE	22	unspeakeable	428547	7658	1684	20407	364.67	80.19	1.79	18900000	2016-05-01	WANT TO
l7gBB7KcD	Klips: Tiny Desk Concert	NPR Music	UC4eXhJl4	US	2025-07-11	44	1404	FALSE	10	NPR,NPR Mu	1074452	92035	11022	24419.36	2091.7	250.5	8.57	11500000	2008-01-03	Bobby
Ey0tZuOCRE	SMG4: A VERY Unlikely Friendship	SMG4	UC8LcA3gY	US	2025-07-12	20	731	FALSE	24	Nintendo,Su	495977	30391	3707	24798.85	1519.55	185.35	6.13	8980000	2009-02-14	Mr. Puzzles
05vyterhe_o	PAST LIFE: Episode 1 - BACK TO THE BEGIN	NPR Music	UCR9GcoqU	US	2025-07-11	44	3799	FALSE	20	Minecraft,Gri	1315412	98237	11359	29895.73	232.66	258.16	7.47	8730000	2009-11-22	NEW Life
jeHhQaoEWG	TWICE 'THIS IS FOR' MV	JYP Entertainment	UCaO6TmIC	US	2025-07-11	56	134	FALSE	10	JYP Entertain	14014376	1115120	139008	250256.7	19912.86	2482.29	7.96	30700000	2008-01-25	TWICE
gQ0P3Q0nj	The final minute of Katie Taylor vs. Amanda Serrano	Netflix Sports	UC_UlduZuI	US	2025-07-12	32	69	FALSE	17	amanda serr	332487	914	2483	10390.22	28.56	77.59	0.27	2150000	2019-10-22	Katie Taylor
vsPceFlyk	mgk - vampire diaries (Official Music Video)	mgk	UCUa8sGpU	US	2025-07-11	44	196	FALSE	10	1307691	60094	8380	29720.25	1365.77	190.45	4.6	9320000	2006-12-27	mgk -	
Ud0_o_kK7Gm	When Shayla ask Amber is her and Anthony	Kountry Wayne	UCiz19gacv	US	2025-07-12	23	264	FALSE	23	King Kountr	206887	11406	7037	8995.09	495.91	305.96	5.51	536000	2015-03-30	-
Fouqo1zNPtI	Duke Dennis & AMP Goes To Six Flags	DukeDennis LIVE	UCz2rQXvI	US	2025-07-12	35	1299	FALSE	24	duke dennis	557065	12140	1104	15916.14	346.86	31.54	2.18	1400000	2021-07-07	But maybe
HDHMB2zZd	Juice WRLD - The Way (feat. XXXTENTACION)	JuiceWRLDVEVO	UC3_471gF	US	2025-07-11	44	249	FALSE	10	Juice WRLD,J	1132229	155627	18955	25732.48	3536.98	430.8	13.75	27600	2018-07-20	Juice
6-dKIYkKvI	'Love Island USA': Ace Dishes On If He's The	Access Hollywood	UCIKGMZm	US	2025-07-12	34	1086	FALSE	24	Love Island L	277493	9705	1726	8161.56	285.44	50.76	3.5	2200000	2006-05-04	Ace Greene
1vVN810kp	BUDGET CHALLENGER R/T TRANSFORMATI	TOM'S REFURB	UCi6P2xQpI	US	2025-07-11	37	2319	FALSE	2	488346	23733	1430	13198.54	641.43	38.65	4.86	643000	2017-11-29	HILARIOUS	
znN8eJRTA	The Strandness of Death Stranding 2	videogamedunkey	UCsvn_Po0I	US	2025-07-11	41	1129	FALSE	20	dunkey,deat	933095	46558	2976	22758.41	1135.56	72.59	4.99	7570000	2010-10-21	GET YO
J0RZTzqvz	ATEEZ(에이티즈) - 'In Your Fantasy' Offic	KQ ENTERTAINMENT	UCQd4-lqP6	US	2025-07-11	56	222	FALSE	10	KQ,에이티즈	13422937	313764	26507	239695.3	5602.93	473.34	2.34	3070000	2016-04-25	ATEEZ(에이티즈)
HAz2G_1Pw	Trolling A Fake Owner With The Real One	Gara PLAYS	UC2XcpvTaI	US	2025-07-11	40	977	FALSE	22	roblox,garag	589284	6323	913	14732.1	158.07	22.82	1.07	47200	2025-03-03	Trolling A
QzbXlW1Wc	Noah Lyles vs Letsie Tebogo: 200m Olympic	RioTrack	UC1Fp5XUJ	US	2025-07-11	39	433	FALSE	17	333477	4706	743	8550.89	120.67	19.05	1.41	655000	2016-07-01	Noah Lyles	
H4WXXqm2	'Easiest Roblox Game VS Worst Player	Laughability	UCn4RkqD1	US	2025-07-12	33	2163	FALSE	20	roblox laugh	312836	12420	2449	9479.88	376.36	74.21	3.97	2300000	2017-01-29	But maybe
YzbvW8WpE	Conan Gray - Vodka Cranberry (Official Mus	ConanGrayVEVO	UCelmCJLZ	US	2025-07-11	56	296	FALSE	10	Conan Gray,	983939	108539	8582	17570.34	1938.2	153.25	11.03	28800	2018-09-04	Listen and
rhsE5OASdI	Jorjiana - Shark (Remix) [feat. Babyface E	Jorjiana	UC2rCFKoi	US	2025-07-11	44	222	FALSE	10	glorilla,loesh	178907	13197	765	4066.07	299.93	17.39	7.38	84300	2024-07-16	The official
M_6_12X3W	This Peak Video Was Difficult	SMi7plus	UC-gW4TeZ	US	2025-07-11	41	1491	FALSE	20	smi7y,smi7	1166244	61901	2236	28444.98	1509.78	54.54	5.31	4010000	2020-06-07	This was my
msGugeloph	DAISIES	Justin Bieber	UCwFjwMjO	US	2025-07-11	56	177	FALSE	10	justin,bieber	2302844	111711	7266	41122.21	1994.84	129.75	4.85	7570000	2007-01-15	Stream/Do
P-9dHlgt1Vc	Clipse, Kendrick Lamar, Pusha T, Malice -	Ch. clipseVEVO	UCksJLNO2	US	2025-07-11	56	244	FALSE	10	Clipse,Kendri	580580	31828	2305	10367.5	568.38	41.16	5.48	77800	2009-09-02	Stream
3skCk7u0Rj	THE MERRY-GO-ROUND The Amazing Dig	The Stupendum	UCvbc2N6b	US	2025-07-11	40	437	FALSE	10	TADC,The Ar	468190	42845	2592	11704.75	1071.12	64.8	9.15	1180000	2016-02-25	Roll up, roll
3skCoydVBf	I Ruined A Movie Premiere	Niko Omilana	UCd4umdO	US	2025-07-11	43	1836	FALSE	24	3016538	224348	8022	70152.05	5217.4	186.56	7.44	7970000	2011-06-21	tsnuck into	
us4I5mtbgh	About 200 people detained during immigrat	KCAL News	UCHH1u0kY	US	2025-07-12	35	258	FALSE	25	KCAL 9 New	403276	3000	2023	11522.17	85.71	57.8	0.74	1110000	2013-12-04	An
F1s1PmW6J	Por Sus Besos - Tito Double P (Video Offic	Tito Double P	UCj1EO3U	US	2025-07-11	60	187	FALSE	10	1950833	80637	3162	32513.88	1343.95	52.7	4.13	2500000	2023-06-05	AE&ESCUC	
cgH6po02r	Ghost of Yvelin - State of Play Gameplay	De PlayStation	UC-2Y8dQbi	US	2025-07-10	63	1153	FALSE	20	PlayStation,J	2724703	155673	11688	43249.25	2471	185.52	5.71	16400000	2005-12-16	https://stor
yewU76DGH	DRAKE - WHAT DID I MISS	Drake	UCByOQjvav	US	2025-07-10	70	243	FALSE	10	1809815	126697	10176	25854.5	1609.96	145.37	7	31200000	2009-06-05	75232021Z	
14dIRFDNhd	2025 NRL Match Highlights Bulldogs v Bro	NRL - National Rumb	UC3-OK306	US	2025-07-04	216	272	FALSE	17	NRL,Nationa	288283	3206	695	1334.64	14.84	3.22	1.11	532000	2006-05-08	The

Data - Reddit

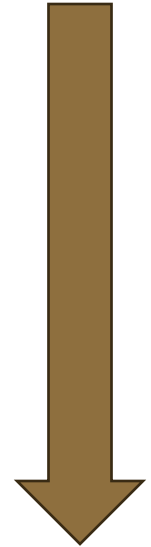
Automatically fetch trending posts using Reddit Hot API

Data Pulled per Video:

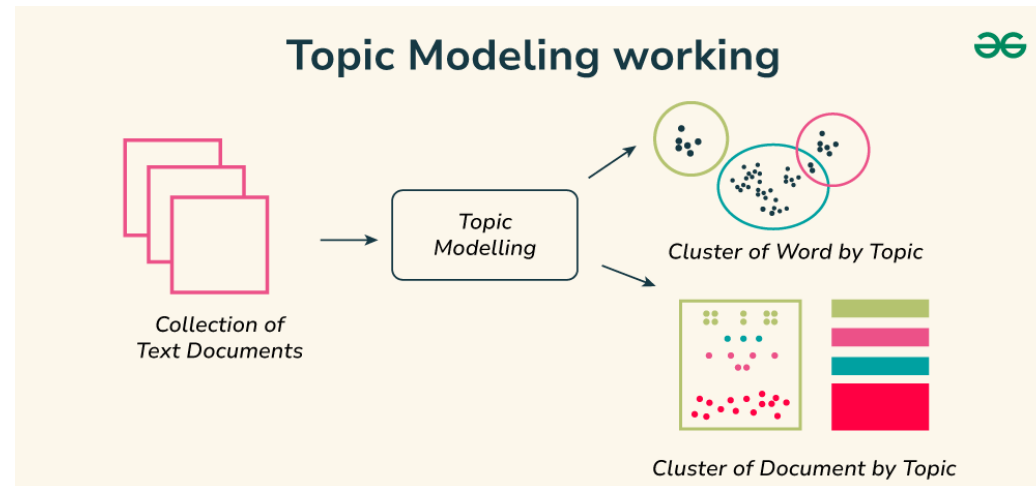
- **API:** Extract data from Reddit “Hot” API endpoint which pulls the trending reddit posts data
- **Performance Stats:** Upvotes, Comments, rewards

approved_at_utc	subreddit	selftext	author_fullname	saved	mod_reason_title	gilded	clicked	title
	law		t2_dca49b9y8	FALSE		0	FALSE	AI Green introduces Article Of Impeachment For Trump
	news		t2_1k0cep2afr	FALSE		0	FALSE	Purple Heart Army veteran self-deports after nearly 50 years in the U.S.
	BeAmazed		t2_v21xxvi	FALSE		0	FALSE	we all need that guy.
	BlueskySkeets		t2_1630bts5	FALSE		0	FALSE	Nailed it
	interestingasfuck		t2_1197xa313h	FALSE		0	FALSE	Anthony Ervin's unbelievable comeback
	todayilearned		t2_18b5b0amy	FALSE		0	FALSE	TIL comedian Redd Foxx would often pretend to have a heart attack and pratfall for laughs. Years later, Foxx would have a heart attack for real, with many people thinking it was a bit as he fell to the ground. He c
	AdviceAnimals		t2_obvv3zt	FALSE		0	FALSE	Yeah, it didn't work for Michael either.
	SipsTea		t2_1dzdnq1lr5	FALSE		0	FALSE	Why dating is over for men
	politics		t2_w25ndfc	FALSE		0	FALSE	Donald Trump Nobel Peace Prize nomination withdrawn
	goodnews		t2_17yo6dkbhc	FALSE		0	FALSE	Donald Trump Nobel Peace Prize nomination withdrawn
	facepalm		t2_ckwy7	FALSE		0	FALSE	"IF I TYPE IN CAPS, PEOPLE TAKE ME SERIOUSLY."
	Fauxmoi		t2_5f4rtyl	FALSE		0	FALSE	Trump is NOT happy this morning with Israel and Iran saying "they don't know what the f*ck they're doing" after breaking ceasefire
	PublicFreakout		t2_g4kd9ccob	FALSE		0	FALSE	Trump says Israel and Iran "don't know what the f*ck they're doing."
	mildlyinteresting		t2_3f70vc57	FALSE		0	FALSE	I cut a healthy looking orion which was actually hollow and rotting from the inside.
	funny		t2_a5jc9yd7	FALSE		0	FALSE	Praised be the mighty duck gods
	Whatcouldgowrong		t2_drc6q7n	FALSE		0	FALSE	Carrying food above your head
	agedlikemilk		t2_17yo6dkbhc	FALSE		0	FALSE	After r/conservatives embarrassing display yesterday these guys are in absolute shambles
	memes		t2_5f841owj	FALSE		0	FALSE	Become the government
	OneOrangeBraincell	Penguin from Ma	t2_bcl1b1bt4t	FALSE		0	FALSE	We were laughing so hard at this. Why does she look so... fake ??
	Awww		t2_1qkpc1k8	FALSE		0	FALSE	Meet mays 🍷🍷
	comics		t2_9m5sj	FALSE		0	FALSE	Time Loop
	whenthe		t2_6ecog3u8	FALSE		0	FALSE	format mismatch
	Steam		t2_c39f7am4	FALSE		0	FALSE	Microsoft has integrated Steam into the Xbox PC App, and it looks fantastic.
	Articonsumption		t2_12g15l	FALSE		0	FALSE	Venice against Jeff Bezos wedding - taken today (23rd June)
	therewasanattempt		t2_jyy61mlo	FALSE		0	FALSE	.. to avoid having a cult leader as President
	pics		t2_1098fybz	FALSE		0	FALSE	OC: Activists in Venice deploy banner displaying Jeff Bezos, protesting his wedding in the city
	Eyebleach		t2_1nrj5oqu1	FALSE		0	FALSE	Everyone's welcome in this pack
	rba	[Source]https://v >Yet if one we >He takes far >Smith's three	t2_sod0nzt6	FALSE		0	FALSE	Jon Lewis: "NBA will be better off without Stephen A. Smith"
	science		t2_6hji	FALSE		0	FALSE	CRISPR used to remove extra chromosomes in Down syndrome and restore human cell function. Japanese scientists discovered that removing the unneeded copy using CRISPR gene-editing normalized gene e
	MadeMeSmile		t2_uzgr2ggm	FALSE		0	FALSE	Encouraging Rejection Letter from NBA Champ's GM
	LeopardsAtMyFace		t2_1bb6pyw	FALSE		0	FALSE	ICE Detains Wife of Staunch MAGA Supporter Who Gave Almost All His Net Income to Trump Campaign
	PropagandaPosters		t2_1ozvylk3wh	FALSE		0	FALSE	Pro-choice poster, 1981, U.S.
	interesting		t2_8whkqkst	FALSE		0	FALSE	In China, when traffic is heavy, lanes are opened to allow cars to move freely.
	politics		t2_v7o3027	FALSE		0	FALSE	Trump Explodes as His Ceasefire Unravels: 'They Don't Know What the F*** They're Doing!'
	LeagueOfMemes		t2_5sa5bu3	FALSE		0	FALSE	Thank you Dota2
	Piracy		t2_1hwywfn	FALSE		0	FALSE	Everyone needs to sign
	rainresults	W	t2_b67yu5bo0	FALSE		0	FALSE	Caw caw 🐦
	Wellthatsucks		t2_drc6q7n	FALSE		0	FALSE	Dropping food over the floor
	Damnthatinteresting		t2_mmvkx25v	FALSE		0	FALSE	Google Earth captures the stunning transformation of our planet over 3 decades
	lego	Perry The Brick €	t2_1s1mmbgndu	FALSE		0	FALSE	A Brick Separator Platypus

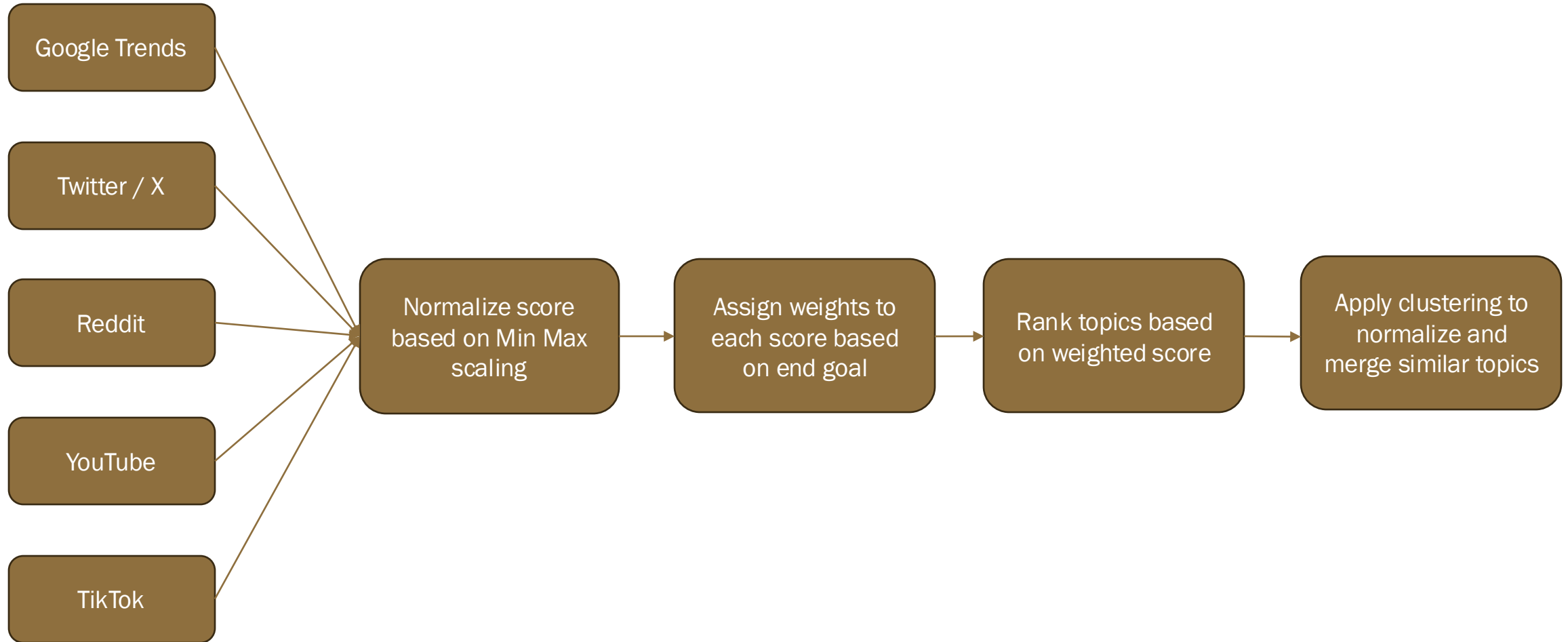
Data & Ranking Methodology – Reddit & YouTube



Data Extraction	Extract data from Reddit and Youtube respectively
LDA	Extract text data from the posts and apply topic model on top of the preprocessed text
Aggregation	Group frequently occurring words into a topic bucket based on latent topic relevance
Topic Label	Use LLM to label the topic buckets based on the keywords
Ranking	The topics are then ranked based on engagement



Consolidated Trend Ranking Methodology

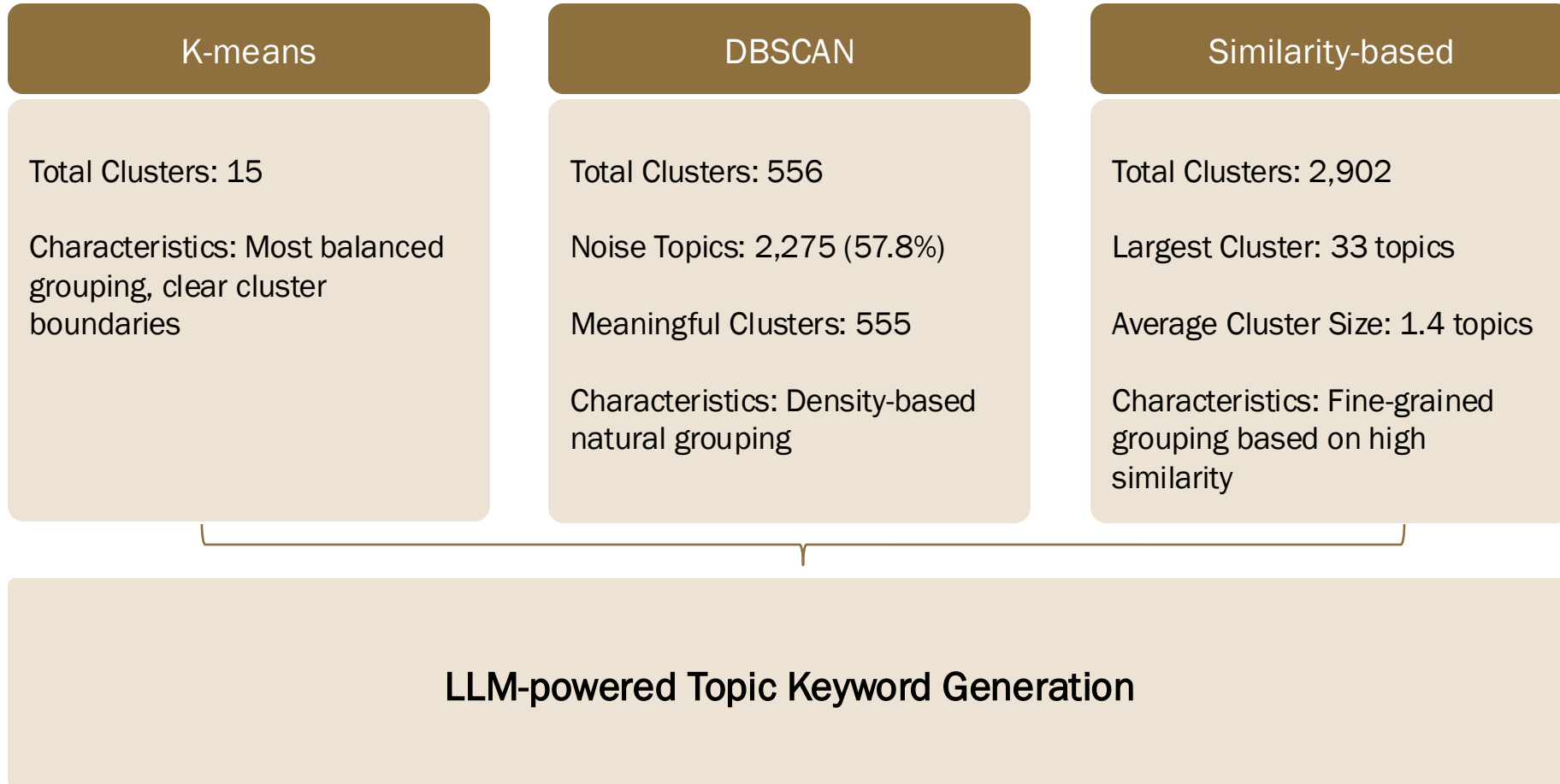


LangChain Workflow

LangChain Tools → Chaining

Load Latest Files	Dynamic updates for fresh data
Data Preprocessing	Clean text Remove stopwords Lemmatization
NLP & LLM Topic Labeling	LDA → High probability keywords Generate topic names with LLM
Data Merging	Merge tabular data into one data frame
Metric Aggregation 1	Aggregate metrics within each platform
Semantic & Cluster Analysis	Similarity measures (Jaccard, SequenceMatcher) Clustering (KMeans, DBSCAN)
LLM Matching & Labeling	Cross-platform semantic matching with LLM Generate cluster names with LLM
Metric Aggregation 2	Aggregate metrics across platforms

Semantic & Cluster Analysis



Semantic & Cluster Analysis: Output



Top 5 Named Clusters

1. Social Media Influencers (Cluster 2)

Topic Count: 53 | Platform Distribution: YouTube (42), X (7), Reddit (4)

Key Topics: Shoreline Mafia Social Media, Social Media Influence, Minecraft Influencers, Palestinian Music Conflict

2. Gaming Love Community (Cluster 15)

Topic Count: 29 | Platform Distribution: X (17), YouTube (9), Reddit (3)

Key Topics: Love and Redemption, Pokemon Gaming, Power of Love, Minecraft Gaming

3. Family Struggles (Cluster 0)

Topic Count: 26 | Platform Distribution: Reddit (19), X (4), YouTube (3)

Key Topics: Car Salesman Stories, Car Rental, Personal Transformation, Parenting Fatigue

4. Celebratory Occasions (Cluster 59)

Topic Count: 14 | Platform Distribution: X (12), Reddit (2)

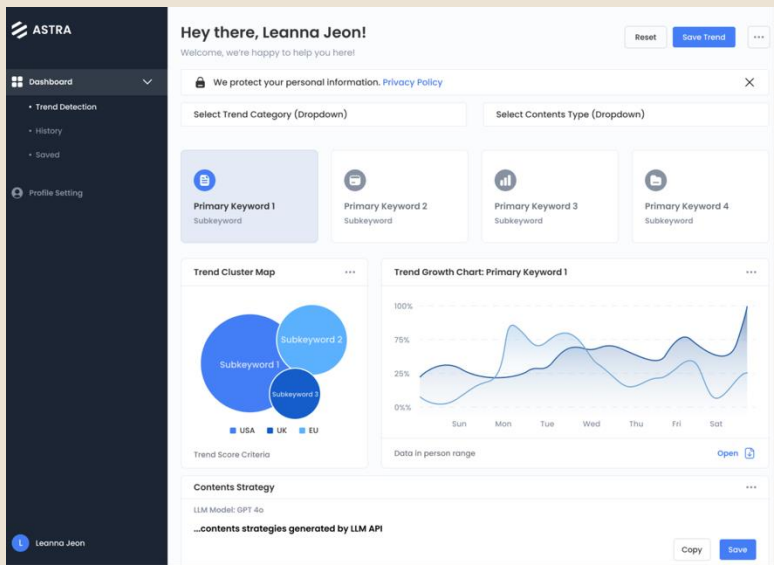
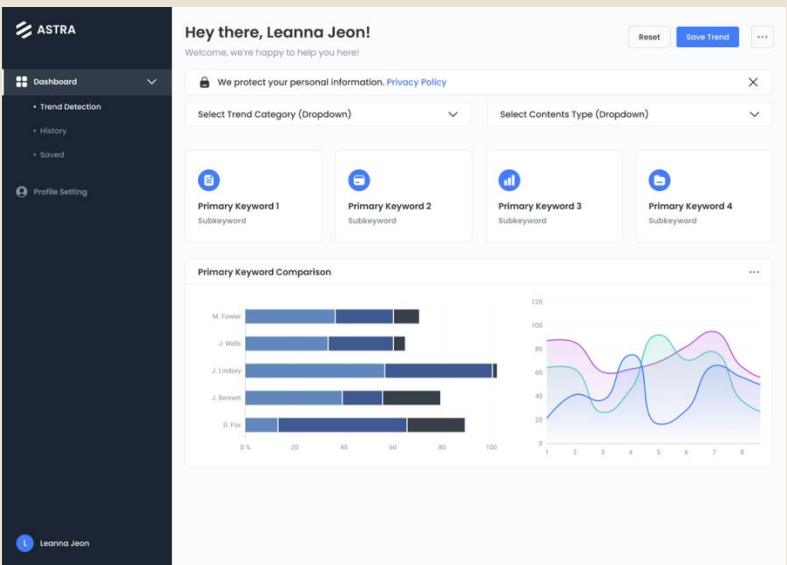
Key Topics: Tattoo Tips, Happy Tattoo Designs, Happy Friday Eve, Happy Anniversary

5. Future Dreams (Cluster 88)

Topic Count: 12 | Platform Distribution: X (12)

Key Topics: Back to the Future, DREAM THE FUTURE, JENO IS THE FUTURE, DREAM TEAM

Dashboard: Design Mockup



Dashboard: Features

User Input Options

- Select trend category (e.g. Gaming, Beauty, Fitness, etc.)
- Choose content type: Text, Image+Text, Long-form Video, Short-form Video

Main Output

- Card view showing primary keywords and related subkeywords
- Visual comparisons of primary keywords with graphs

Drill-Down View (on keyword click)

- **Trend Cluster Map:** Displays trend scores and relationships among similar or subkeywords
- **Trend Growth Chart:** Shows growth patterns and activity spikes over the past 7 days or 24 hours
- **Content Strategy Recommendations:** AI-driven suggestions generated by an LLM

Next Steps

Important: *Finalize Trend metrics and weights based on video content type*

Our suggestions/questions for the future...

Validation and Changing Weights

- A. Change weights of platforms and engagement metrics based on feedback from an external source (Possibly Meta Trending data)

Model Upgrades

- A. Active Learning Loop: feed false-negatives & borderline cases into weekly fine-tune (LoRA on Llama-2 7B)
- B. RAG for Context: pull top Reddit / TikTok posts for each term. Enrich prompt with media type & sentiment cues. Geo-burst features?
- C. Agent Scale: Capacity is likely Mixtral 8 7B or Llama 2 7B.

Request

- A. Internal Content-Performance endpoint (read-only)
 - Post-ID, publish-time, 24 h views & saves.
 - *Overhead*: one JSON fetch nightly (<1 MB).
 - Rolling Back-test (6 months)

Thank You!

Any Questions?