Bridging the Narrative Divide:

Cross-Platform Discourse Networks in Fragmented Ecosystems

Narratives don’t respect platform boundaries — our models shouldn’t either.

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The Same Narrative, Told Across Many Platforms At Once

January 6th, 2021: "Trump said it's gonna be wild — pack your sh**, we're heading to DC."

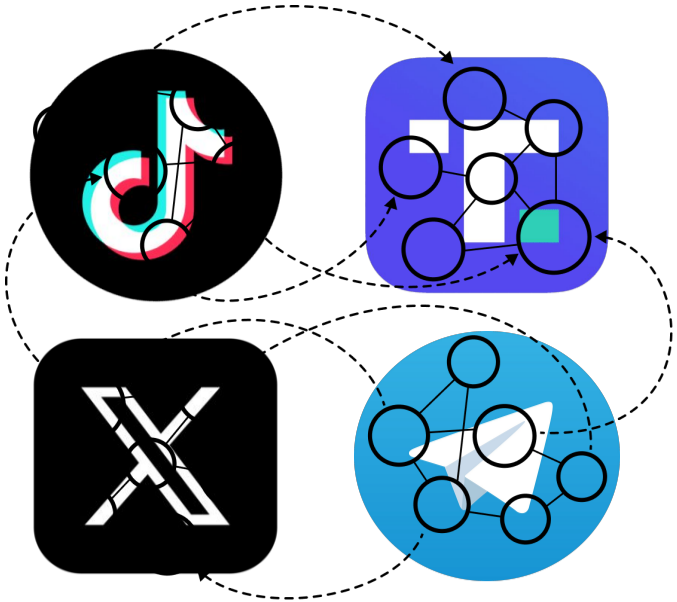
Source: NPR

The Same Narrative, Told Across Many Platforms At Once

Springfield, OH, 2024: “They’re eating the dogs, they’re eating the cats.” A local rumor that Haitian immigrants were eating pets started on Facebook.

Source: NPR

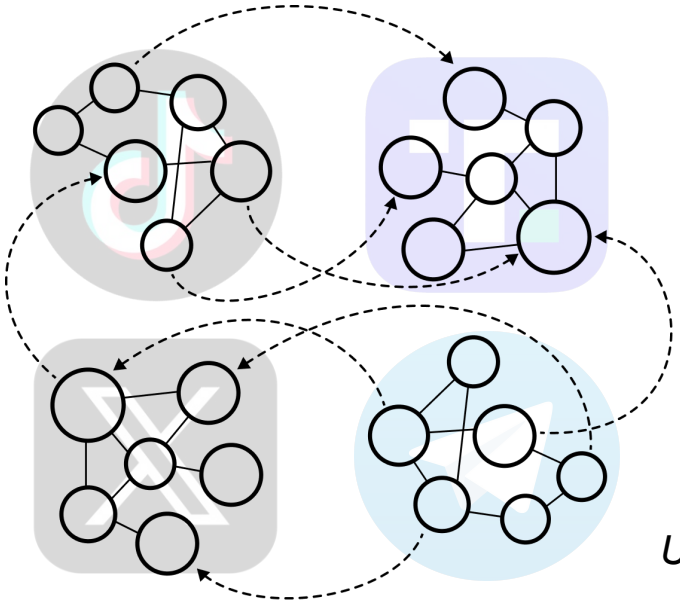
Modern Narratives Take Shape *Across* Platforms



The online information ecosystem is fragmented.

- Users consume and share content across many platforms.
- The **borders between platforms are arbitrary — ideas and narratives do not respect them**.
- Without cross-platform visibility, we fail to anticipate real-world impacts.

Why Traditional Methods Fail

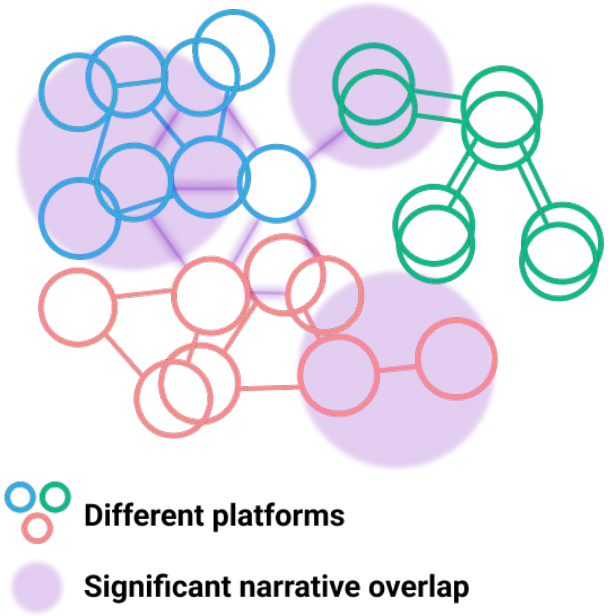


Traditional networks break at the platform boundary.

- Follower graphs, reposts, hashtags → **platform-locked**
- Semantic similarity → **brittle** under platform-specific language
- APIs → **disappearing**, incomplete, inconsistent

Understanding modern information flow requires understanding how users connect across platforms, not just within them.

Rethinking User Representation Through Shared Discourse

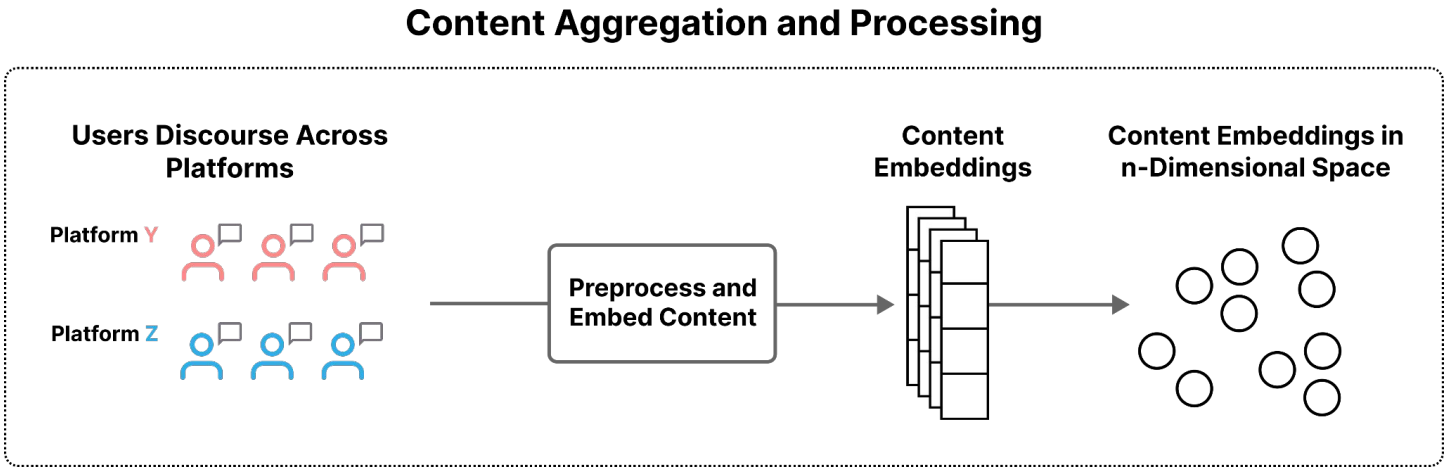


Instead of "who did this user repost?" → "what ideas does this user inhabit?"

- Each user = **distribution over latent narratives**
- Users who engage with the same narratives connect — regardless of platform
- No follower ties needed or shared metadata needed.

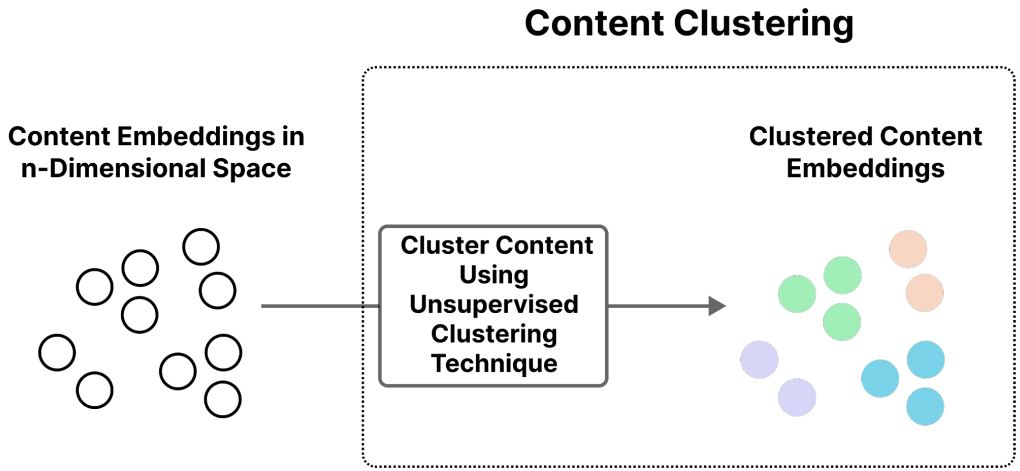
Content → Embeddings → Narratives → User Distribution → Unified Network

Our Approach: Modeling Discourse as Network



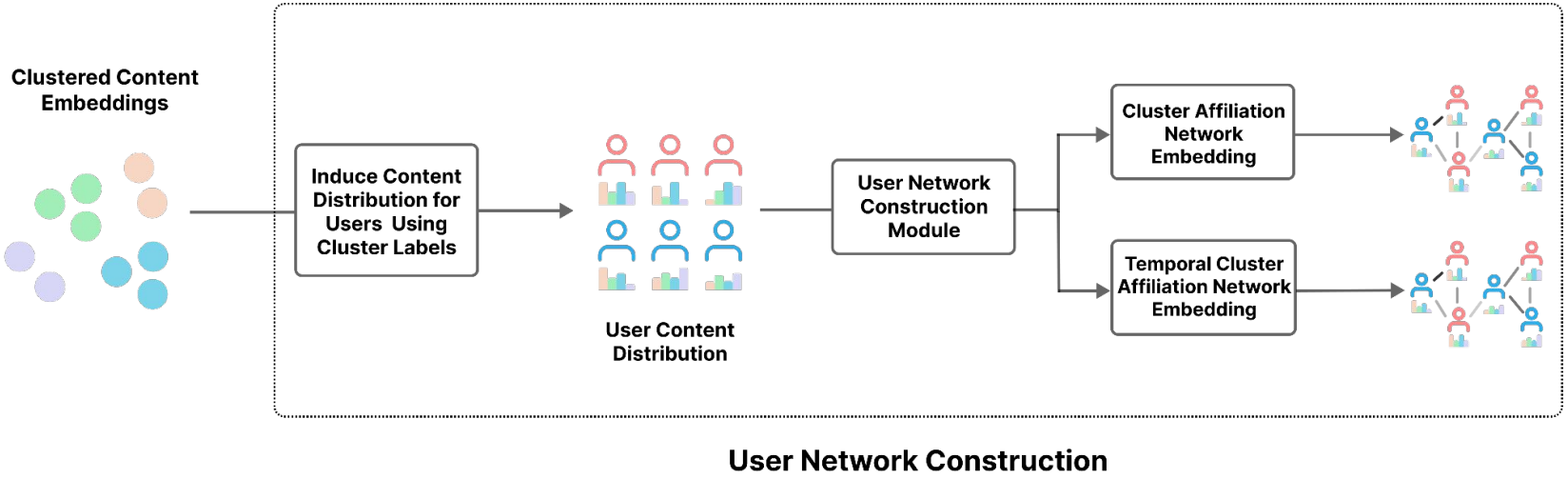
Step 1: Content Aggregation and Processing *Collect cross-platform discourse and transform text into comparable embeddings*

Our Approach: Modeling Discourse as Network



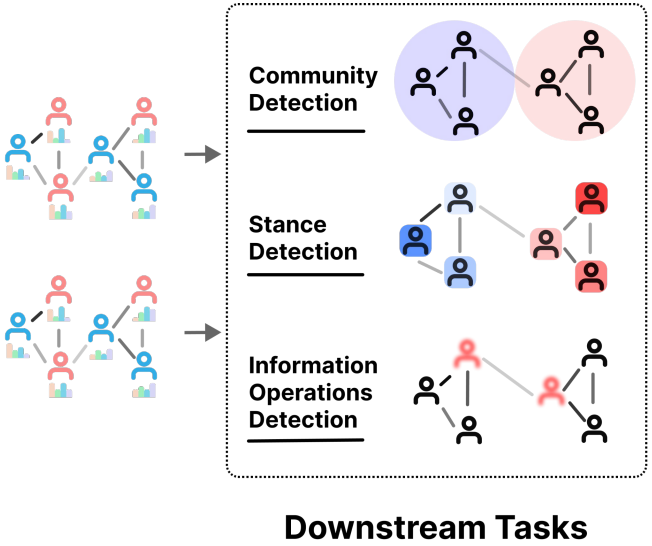
Step 2: Content Clustering *Group similar discourse into thematic clusters using unsupervised learning*

Our Approach: Modeling Discourse as Network



Step 3: User Network Construction *Transform content clusters into user networks based on shared discourse patterns*

Our Approach: Modeling Discourse as Network



Step 4: Network Applications *Use the constructed networks for traditional network analysis and detection tasks*

Does it Work? Let's Test

We benchmark our approach against classic network construction methods on established and novel CSS tasks using a consistent set of classifiers.

Network Type	How Users Are Connected
Co-Repost	Repost the same content
Co-URL	Share the same URLs
Fast Repost	Repost identical content within a short window
Hashtag Sequence	Use the same ordered hashtag sequences
Text Similarity	Post highly similar text
k-NN Embedding Graph	Close in overall text embedding space
Fused Graph	Linked if connected in any of the above networks

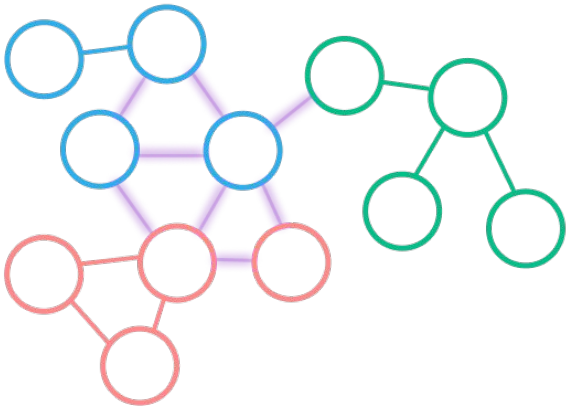
Influence Operation Detection
Detecting covert accounts that promote coordinated influence campaigns (Seckin et al. 2024).

Ideological Stance Prediction
Inferring a user's political leaning based on their network position.

Cross-Platform Engagement Prediction
Predicting which users will engage with content as it moves across platforms.

Results: Leaner, broader, and consistently best-in-class

Discourse Networks perform better, need less data, and cover more users



Different platforms

Significant narrative overlap

IO Detection

11% F1, 24% AUC improvement over baseline

Ideological Classification

15-20% F1 improvement over best baseline

Cross-Platform Engagement:

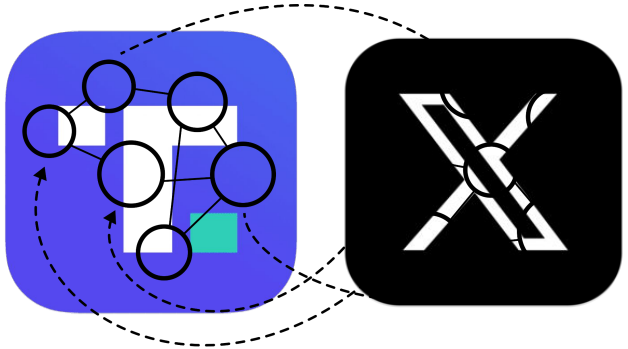
47% AUC improvement over best baseline

Reaches peak performance with a fraction of users content; covers nearly all users.

The Discourse Network Exposes a Hidden Bridge Zone

X + Truth Social, 2024 U.S. Election: A Tiny Bridge Zone Spans Both Worlds

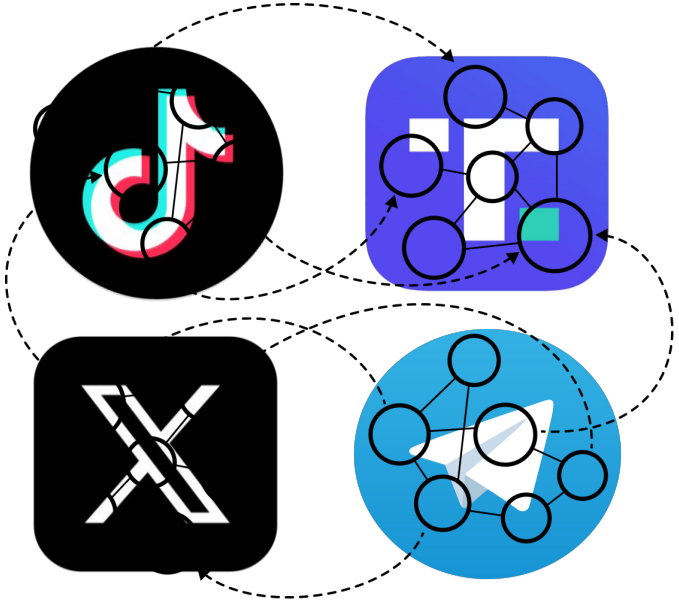
- One high-entropy community detected: 0.33% of users, 2.14% of posts
- First cross-platform carriers for 68–69% of migrating narratives
- Activity near platform median — signal comes from structural position, not volume
- Invisible to every other network tested



Future Work: Those Bridges Are Predictive (WWW '26)

Discourse networks turn cross-platform diffusion into a proximity problem

- Extended to 5.7M posts across X, TikTok, Truth Social, and Telegram
- Users with active discourse neighbors are 22.4× more likely to adopt a narrative (OR, 95% CI [16.9, 29.7])
- Monitoring just 2.9% of users — those with high cross-platform connectivity — retains 97% of prediction performance



Key Takeaways: Birds of a Feather *Think* Together

Discourse-based graphs outperform traditional ones

Discourse-based networks capture **more users** with **less data**, while matching or exceeding traditional methods on standard tasks.

Cross-platform by design

The approach **works across fragmented ecosystems**, without needing reposts, URLs, or user overlap.

Bridge users in the wild

In the 2024 US election case study, a hidden **0.33 percent** of users **drove nearly 70 percent** of narrative migration between Truth Social and X.

```
pip install discourse-networks
```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