

Tracing *Narrative Flows* across Global South & North User Communities.

*A Latent Temporal-Thematic Network (LTTN) analysis of
Ukraine-war discourse on Twitter / X.*

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Three open questions.

- RQ1 How do Ukraine-war narratives flow across user communities differentiated by *ideology, identity, and geography*?
- RQ2 Do these temporal narrative flows reveal structural imbalances between Global South and Global North information landscapes?
- RQ3 What role do *non-political* user communities play in cross-border narrative flows?

A global information *battlefield.*

The 2022 Russian invasion of Ukraine created a global discourse where regional and ideological publics competed to set frames.

In the **Global North**, elite publics framed the war as defense of a rules-based order.

In the **Global South**, the tangible consequences (grain shortages, fertilizer disruption, energy spikes) produced perspectives that received comparatively less attention in dominant media.

How does the Global Majority achieve narrative agency within a Global-North-dominated discourse?

Three lenses on digital gatekeeping.

*Our framework isolates the third lens, **recurrence**, which previous computational approaches underspecify for social-media discourse.*

01

Diffusion

Directional transmission through reposting, sharing, replying. A well-developed literature on virality, information cascades, and social sharing (Giglietto et al., 2020; Liang, 2021).

02

Co-creation

Thematic convergence without direct transmission. Operationalized through *text networks* and culture networks (Bail et al., 2016). Static: thematic alignment is captured, but temporal order is not.

03 · OURS

Recurrence

Temporal sequencing of thematic convergence: who articulates first, whose content mirrors it next. **RNewsflow** (Welbers et al., 2018) pioneered this for mass media but relies on *bag-of-words* matching, which struggles with multilingual, noisy social-media text.

Three weeks of grain-crisis discourse.

1.31^M

TWEETS

481^K

UNIQUE USERS

28

GEO-IDENTITY GROUPS

Target weeks: **23–30 April** (early grain blockade), **16–23 May** (UN / Türkiye mediation), **16–23 June** (food-security peak).

Users classified via gpt-4o-mini batch API with iterative pilot validation; Global South defined per UN regions excluding high-income economies.

28 compound geo-identity groups.

Geography (GN / GS / Unknown) × ideology, profession, interest.

GLOBAL NORTH · TOP GROUPS

Hobbies, Lifestyles	39,074
Others	27,403
Knowledge & Media	21,938
Business / Finance / Tech	18,057
Progressive / Liberals	16,057
Pro-Ukraine	8,931

GLOBAL SOUTH · TOP GROUPS

Knowledge & Media	5,831
Hobbies, Lifestyles	6,376
Others	5,236
Business / Finance / Tech	4,700
Religious / Spiritual	2,182
Progressive / Liberals	2,036

May target week · user counts

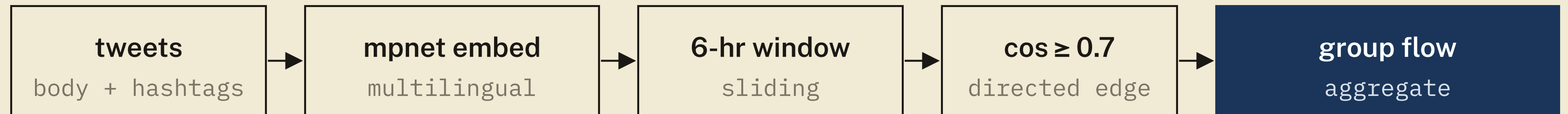
GN = 72-75% · GS = 11-15% · UNKNOWN = 11-15%

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Latent Temporal-Thematic Networks.

Multilingual transformer embeddings + a 6-hour sliding window track recurrence at scale.

paraphrase-multilingual-mpnet-base-v2



post-level edges aggregated to compound user-group networks

For each post we scan forward within a 6-hour window for semantically similar subsequent posts (cosine ≥ 0.7). When matched, a directed edge from earlier to later post is recorded. Edges aggregate to compound user-group flow networks.

Two kinds of *recurrence.*

V1 · full text

Cosine similarity on the complete post, including hashtags.

Captures **algorithmic recurrence**. Common or coordinated hashtag use will inflate detected narrative flows, picking up convergence that may be tag-driven rather than substantively thematic.

V2 · body-priority

Body text and hashtags embedded separately, then combined with a 70 / 30 weighting.

Generic hashtags get down-weighted via inverse document frequency. Captures **organic, thematically-driven recurrence** rather than tag co-presence.

GS narrative agency is *contested, not fixed.*

GS→GN flow share (V2) rises from **7.2%** in April to **16.7%** in June.

GS→GS internal flows surface from a negligible **1.4%** (V1) to **9.1%** (V2) in April.

The pattern supports a *contested digital gatekeeping* model — Southern agency waxes and wanes with external event windows, rather than remaining fixed.

FLOW	APR V1	APR V2	MAY V2	JUN V2
GN→GN	59.0	38.5	75.8	28.9
GS→GN	8.5	7.2	2.7	16.7
GS→GS	1.4	9.1	1.6	2.5
GN→GS	8.0	5.6	2.5	10.6

% of total flows by region pair

Lifestyle & hobby communities became the *cross-border bridge*.

*The V2 flow metric for the Hobbies & Lifestyles cross-border pathway rose substantially across the three target weeks, from **0.09** in April to **6.87** in June. Post-hoc BERTopic clustering surfaces the substantive content of these bridging flows.*

APRIL

Tigray justice

GS Progressive → GN Others. Explicit comparative framing against the global attention to Ukraine.

MAY

Eurovision & Azovstal

Hobbies / Lifestyles cross-border flow. Pop culture and steel-plant siege blend in dual-purpose discourse.

JUNE

K-pop coordination

Identical message structures suggest fandom infrastructure repurposed for political messaging at scale.

Pro-Ukraine groups peaked in May, then *declined*.

*Pro-Ukraine ↔ Hobbies / Lifestyles
peaks at 38.7 (V1) and 6.6 (V2)
in May.*

By June, the dominant intra-Northern pathway shifts to *prominent influencers* and *lifestyle communities*.

Pro-Ukraine narrative dominance proved *event-bound*, not sustained. Visibility was a moment, not a position.

Internal GN→GN · peak diplomatic-mediation week

Human stewardship of multi-agent research.

*Human researchers collaborate with multi-model AI agents under **CommDAAF**, the Computational Multi-Model Data Analysis and Augmentation Framework, to ensure that AI is used in a responsible, transparent, and methodologically rigorous way.*

WHAT THE PROTOCOL ENFORCES

Probing questions before analysis, forcing explicit articulation of design choices.

Tiered validation: exploratory → pilot → publication.

Assumption auditing: explicit acknowledgment of interpretive assumptions and alternatives.

Credibility ratings on every claim, with escalating evidence requirements.

LINEAGE

CommDAAF adapts and extends the open-source **DAAF** (Data Analyst Augmentation Framework, *DAAF-Contribution-Community*).

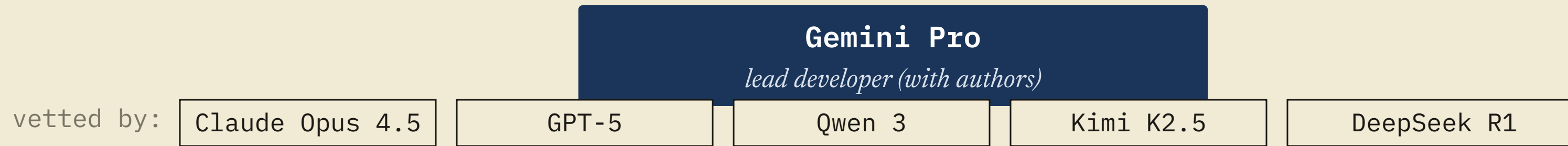
DAAF provides a domain-general scaffold for rigorous AI-assisted analysis.

CommDAAF tailors that scaffold for *computational communication research*: codebook generation, sampling strategy, effect-size interpretation, literature synthesis, multimodal coding, and algorithmic audit.

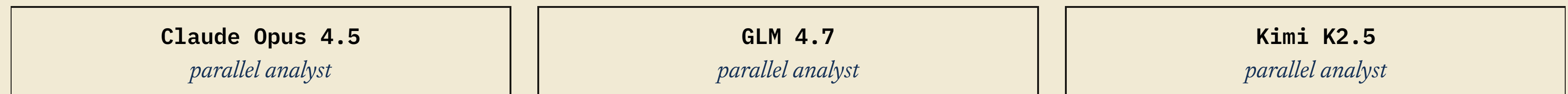
Three phases. One protocol.

A staged pipeline: initial code development, CommDAAF-enabled re-analysis, then multi-agent validity check, with humans adjudicating throughout.

PHASE 01 · INITIAL LTTN DEVELOPMENT



PHASE 02 · COMMDAAF-ENABLED RE-ANALYSIS · THREE PARALLEL AGENTS



COMMDAAF PROTOCOL
probing Q's · tiered validation · assumption audit · credibility ratings · structured disagreement

PHASE 03 · MULTI-AGENT VALIDITY CHECK · HUMAN ADJUDICATION

AGENTS SIMULATE READER · CROSS-AGENT TRIANGULATION · HUMAN ADJUDICATION

TRACING NARRATIVE FLOWS · LTTN

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Contested *gatekeeping.*

Structural inequality is real but not deterministic. External events create windows where Global Majority voices achieve narrative agency. Non-political communities serve bridging functions that explicitly political actors cannot.

LEARN MORE

Read about responsible use of AI agents in social-science research under the **CommDAAF** guardrail at agentacademy.lampbotics.com