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Applied Systems Analysis

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AI-Driven Analysis of Spanish- Language Crisis Discourse: Lessons from the 2025 Iberian Peninsula Blackout

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The New Reality: Crisis at Digital Speed



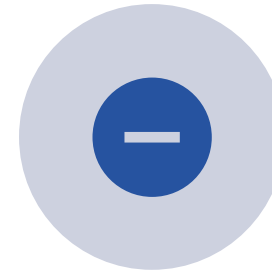
CRISES UNFOLD
FASTER THAN
OFFICIAL RESPONSES.



PUBLIC SENTIMENT
SOLIDIFIES BEFORE
STATEMENTS ARE
DRAFTED.

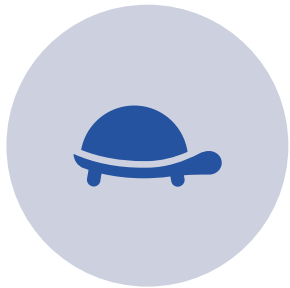


**THE
PROBLEM:** INFORMA
TION OVERLOAD +
MISINFORMATION =
STRATEGIC
PARALYSIS.



CONSEQUENCES:
EROSION OF TRUST
IN INSTITUTIONS,
INEFFECTIVE
RESOURCE
ALLOCATION,
AMPLIFIED HARM
THROUGH PANIC AND
DANGEROUS
BEHAVIOR.

The Paradigm Shift: From Reactive to Proactive with AI



Traditional approach: Reactive, slow, based on incomplete information.



AI-enhanced approach: Proactive, real-time, data-driven.



AI as force multiplier: Processes millions of data points to provide actionable insights.



Goal: Anticipate public anxiety and tailor response dynamically.

Case Study: The 2025 Iberian Peninsula Blackout

Event: April 28, 2025 - unprecedented blackout across Spain and Portugal.

Scale: 60 million people affected, Europe's largest outage in 20+ years.

Research focus: Spanish-language YouTube discourse ("apagón").

Data: 76,398 comments from 360 videos analyzed with AI (gpt-4o-mini, gpt-5-mini).

The AI Engine



SENTIMENT AND EMOTION

ANALYSIS: GAUGES
PUBLIC MOOD (ANGER,
FEAR, URGENCY).



**TOPIC
MODELING:** IDENTIFIES
EMERGING THEMES
AND NARRATIVES.



**MISINFORMATION
DETECTION:** FLAGS
FALSE CLAIMS AND
CONSPIRACY
THEORIES.



**CIVIC ENGAGEMENT
TRACKING:** MAPS
CALLS TO ACTION AND
BLAME ATTRIBUTION.

Key Finding 1: A Sea of Negativity and Anger



Overall sentiment: Markedly negative (mean score: -0.27).



Dominant emotion: Anger (43.2%) - nearly half of all comments.



Brief optimism: Temporary sentiment improvement during power restoration.



Political polarization: Left/right-leaning comments were significantly more negative.

Key Finding 2: Misinformation Presence

46.1% of comments contained misinformation.

Top false narratives:

- False or misleading claims (40.6%)
- Conspiracy theories (20.0%)
- Political/ideological misinformation (17.5%)

Lack of correction: Only 4.6% of misinformation posts were opposing it.

Key Finding 3: Deep Distrust in Institutions

Blame attribution:

- **43.9%** → Government and political failure
- **21.9%** → Technical infrastructure failure

Civic engagement:

- **1 in 5 comments** included calls to action
- Top demand: **Accountability and protest (28.6%)**

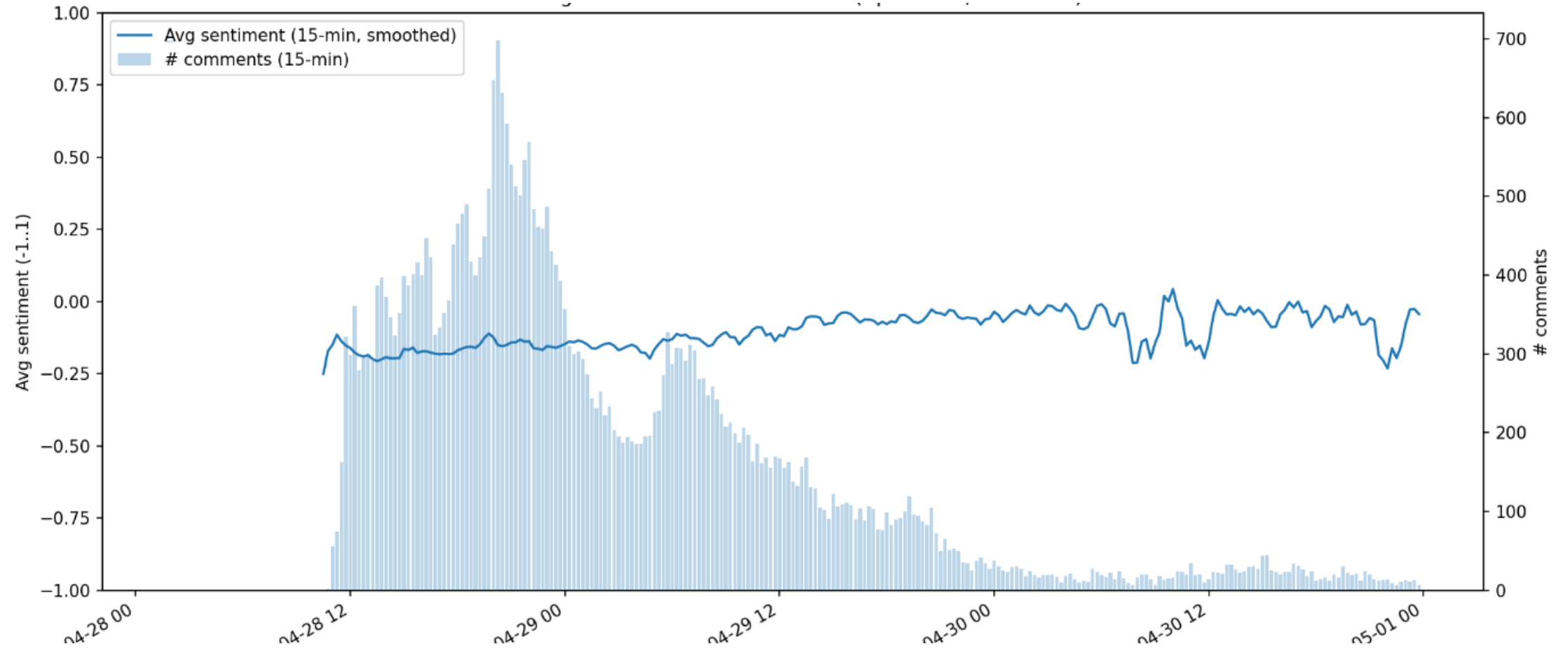
Solution-oriented comments: Only **10.1%** offered solutions.

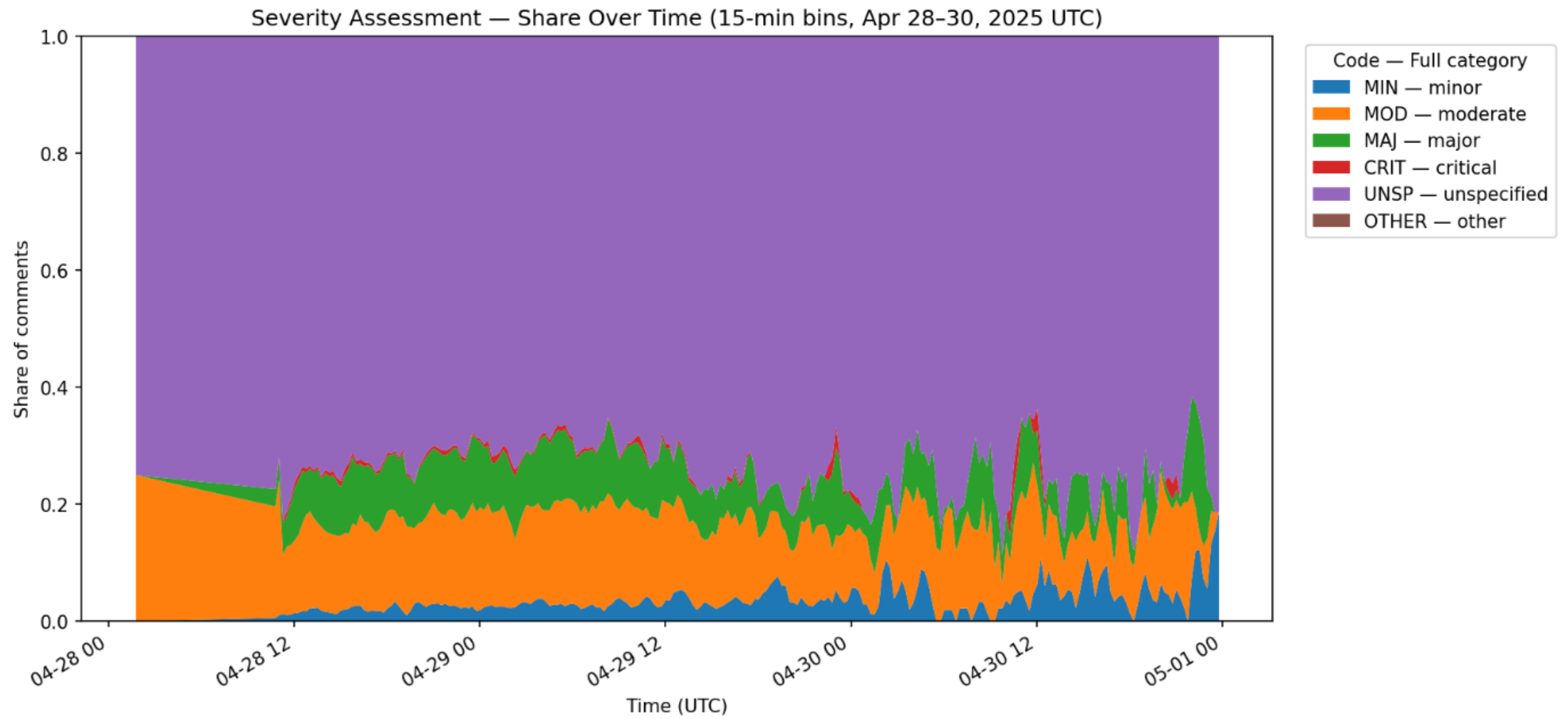
The Dashboard: Real-Time Crisis Intelligence

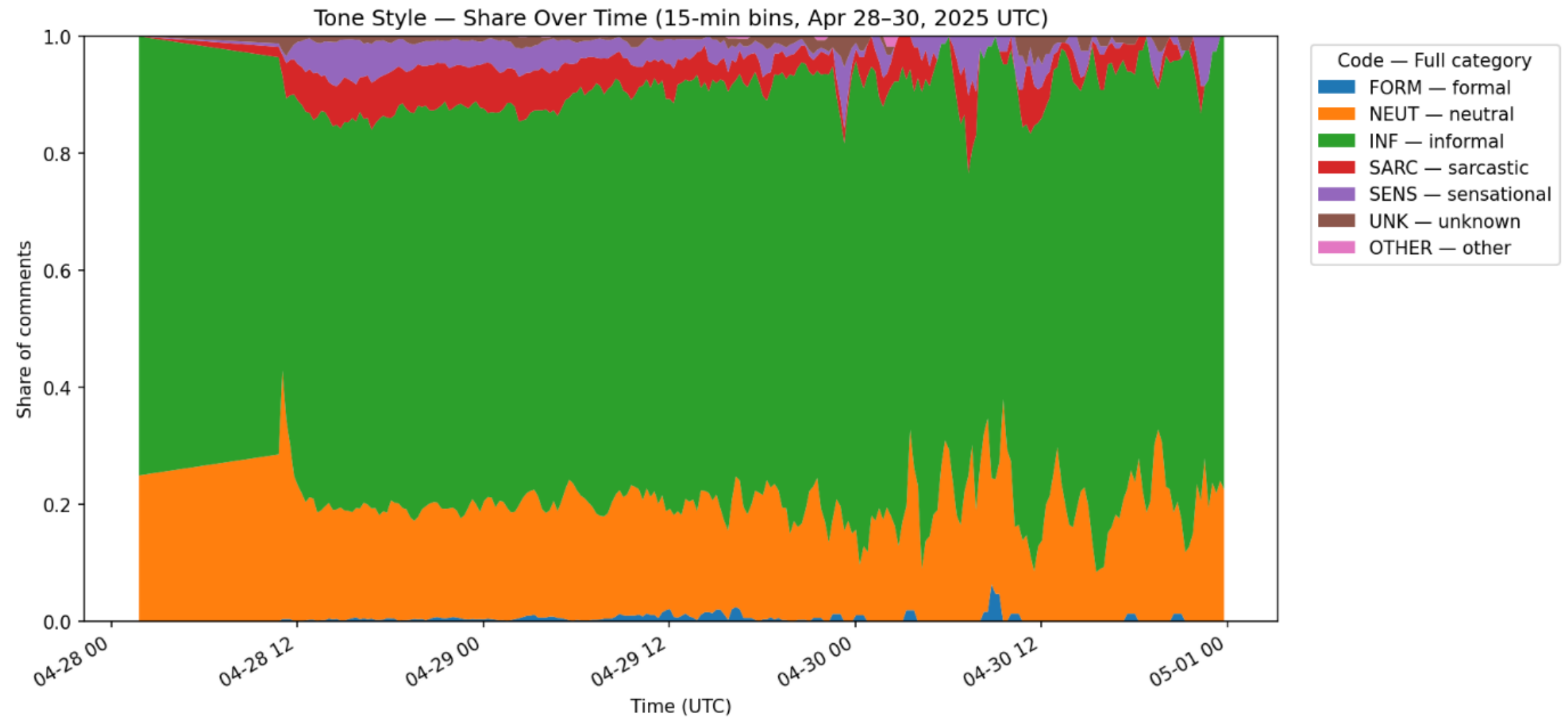
AI provides visualized insights for decision-makers:

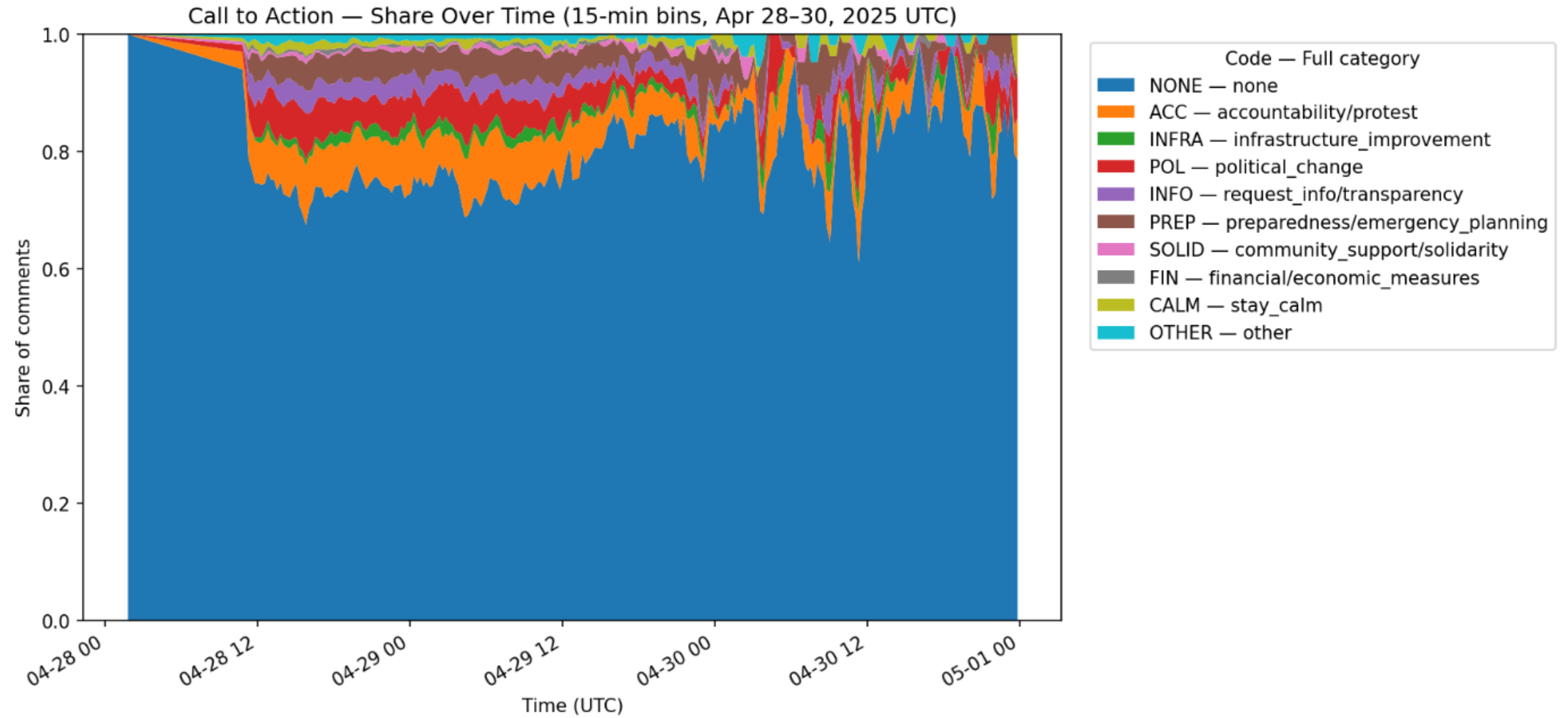
- Sentiment tracking over time
- Misinformation spike alerts
- Geographic heatmaps of discussion
- Trending topics and narratives
- Real-time public emotion analysis

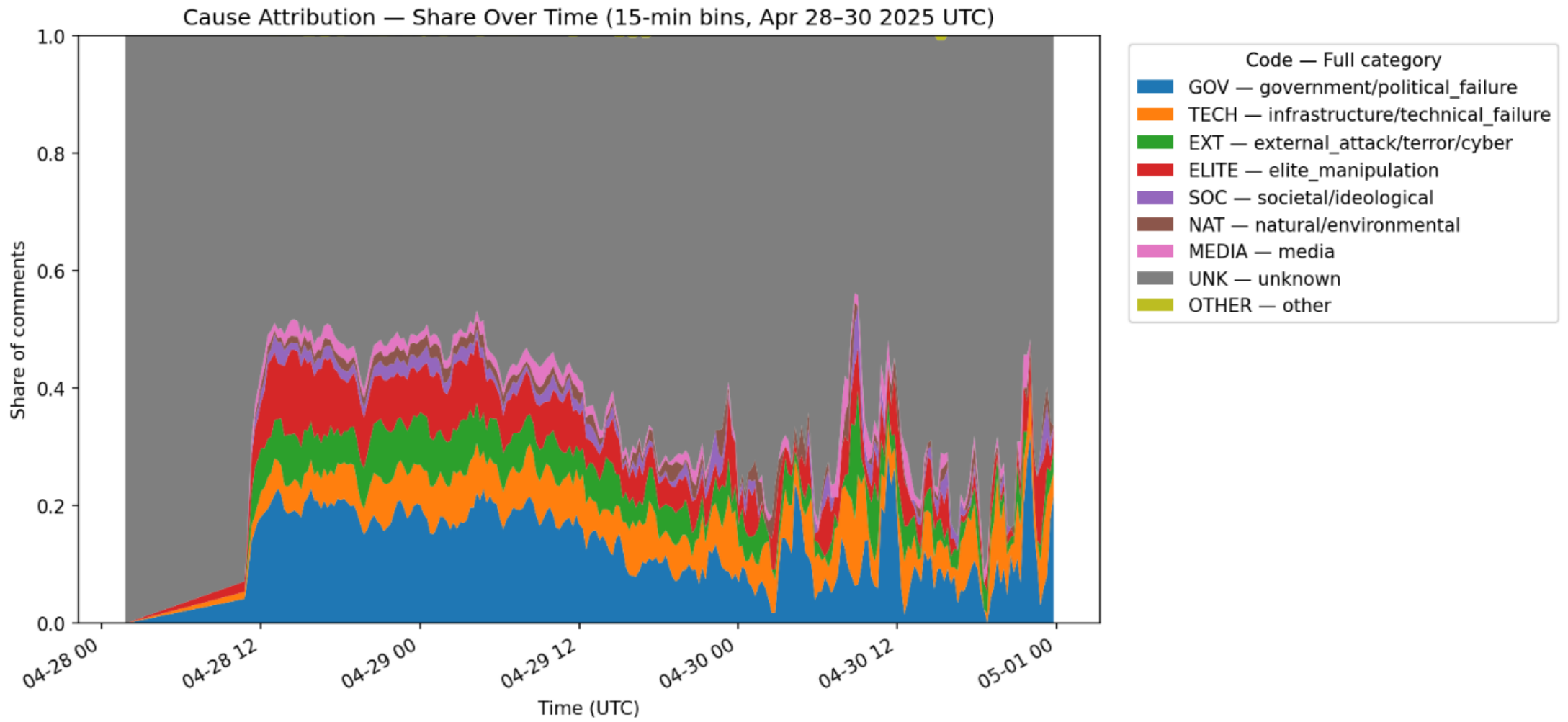


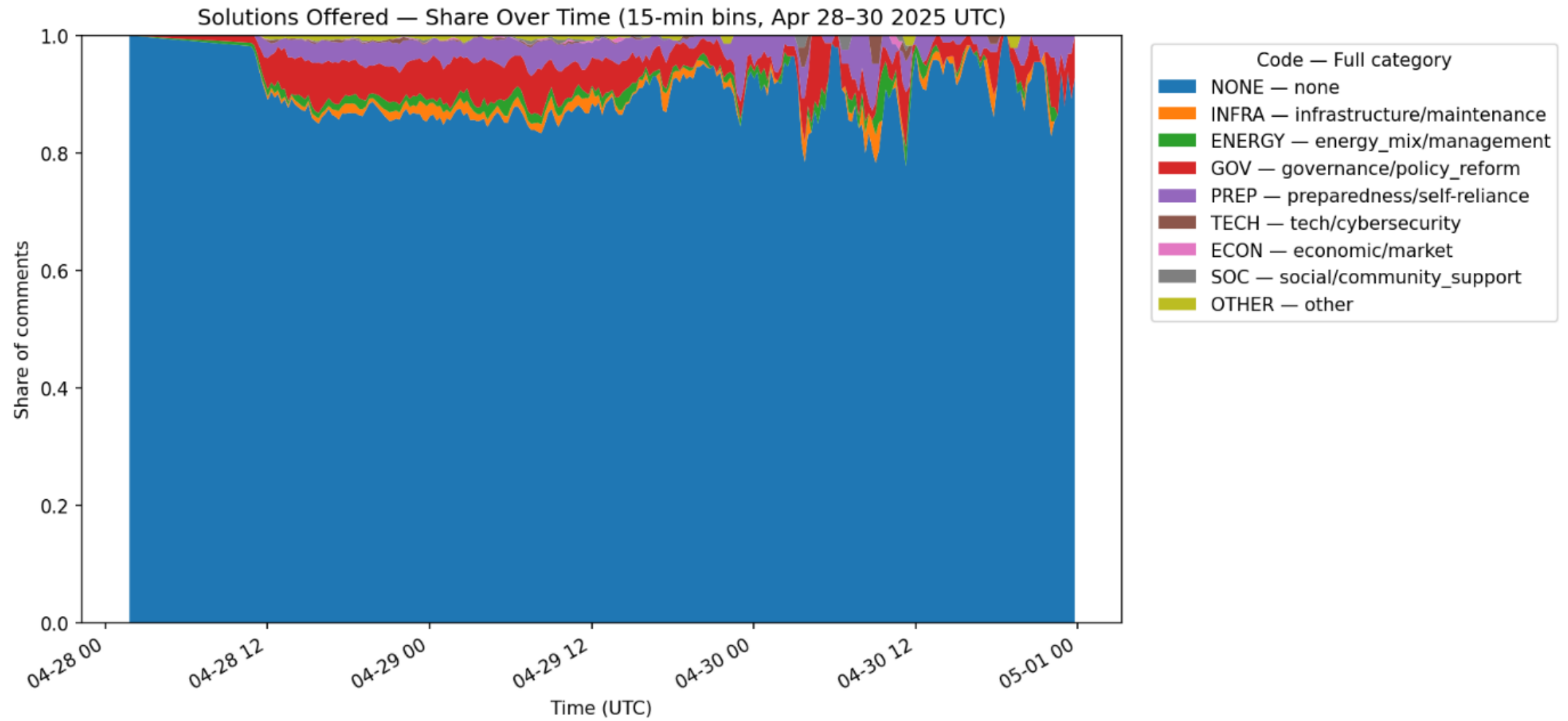


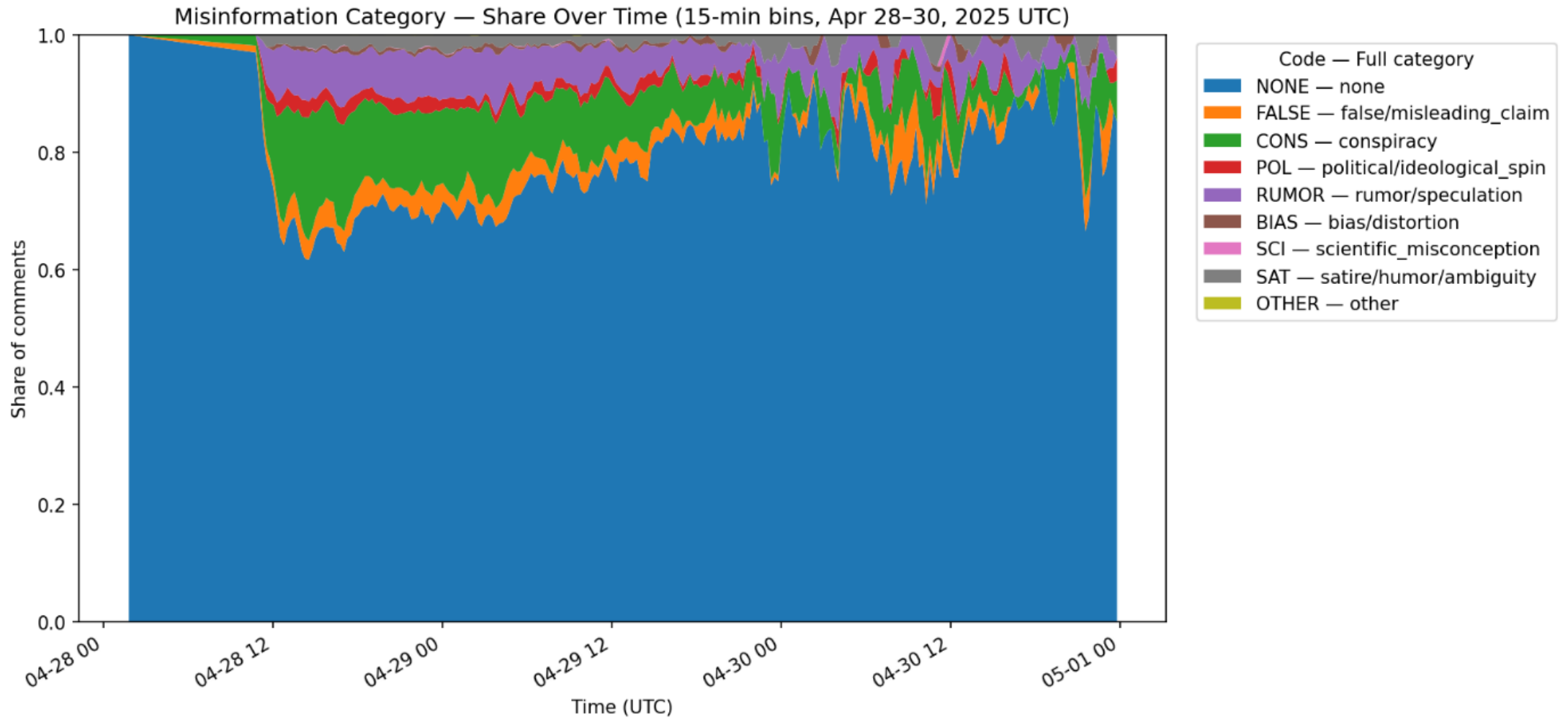












Conspiracies and Debunking

✿ **CONSPIRACY 1: “The blackout was a social experiment or planned by governments / elites (EU, Davos, UN, Agenda 2030, New World Order) to control the population”**

FACT-CHECK / DEBUNKING: There is **no evidence** that any global or European plan exists to deliberately cause blackouts as tests of social control. Power grids are complex, interconnected systems that can fail due to overloads, extreme weather, or technical errors — not coordinated political agendas. The **UN’s Agenda 2030** is a list of *voluntary sustainable development goals* (like reducing poverty or improving education). It does **not** include anything about blackouts or population control.

✿ **CONSPIRACY 2: “It was a false flag or self-inflicted attack by the EU / Spain / Brussels to justify military spending or distract from corruption”**

FACT-CHECK / DEBUNKING: False flag operations are *extremely rare* and nearly impossible to organize secretly across multiple governments and agencies. Blackout investigations are handled by **independent technical operators** (e.g., Red Eléctrica, ENTSO-E) whose data are auditable and transparent. No credible link exists between power outages and national budget decisions, military contracts, or corruption scandals.

✿ **CONSPIRACY 3: “It was a cyberattack by Israel / Morocco / Russia / the US / the CIA / Mossad / etc.”**

FACT-CHECK / DEBUNKING: Attributing a cyberattack requires **digital forensic evidence** (logs, signatures, IP traces, malware analysis). No official agency has confirmed any foreign cyberattack related to this event. Most regional blackouts are caused by **grid synchronization failures or automatic safety shutdowns**, not by hacking or external interference.

Navigating the Challenges: Ethics and Limitations

- **Ethical imperatives**

-  **Privacy first:** Analysis restricted to public data; strict anonymization to protect individuals.
-  **Bias auditing:** AI models can reflect and amplify societal biases; requires continuous validation and diverse training data.
-  **Algorithmic transparency:** We must strive to understand *why* the AI flags content, ensuring decisions are explainable.

- **Inherent limitations**

-  **The nuance gap:** NLP struggles with sarcasm, cultural context, and complex human humor.
-  **Data blind spots:** Critical discussions in private groups or encrypted apps remain inaccessible.
-  **Platform bias:** Findings represent only those who comment on specific platforms, not the entire population.

The Critical Balance: Human-in-the-Loop

- **AI informs. Humans decide.**
 - **AI is the powerful engine for data processing.**
 - It provides the **scale, speed, and pattern recognition** needed to monitor vast digital landscapes in real-time.
 - **Humans provide the essential judgment, empathy, and strategy.**
 - **Context is king:** Humans interpret the "why" behind the data, understanding cultural and political subtleties.
 - **Ethical oversight:** Humans make the final call on sensitive communications and resource allocation.
 - **Strategic messaging:** Humans craft the nuanced, compassionate, and trustworthy messages that resonate with affected communities.
- ➔ **The synergy of AI-powered insights and human wisdom creates truly resilient crisis response.**

From Insights to Action: A Strategic Path Forward

- **Actionable recommendations for building digital resilience.**
- **For crisis managers and policymakers:**
 - **Integrate real-time monitoring:** Make AI-driven dashboards a core component of emergency operations centers.
 - **Adopt proactive communication:** Use insights to **pre-bunk** emerging rumors and address public fears before they escalate.
 - **Champion linguistic inclusion:** Ensure crisis teams and messaging are equipped for Spanish-speaking and other non-English audiences.
- **For implementation:**
 - **Partner with trusted voices:** Collaborate with established media and community influencers to amplify factual information.
 - **Train and empower communicators:** Equip teams to interpret AI data and craft messages that resonate with the platform's emotional tone (e.g., moving beyond formal statements to engage in informal, direct dialogue).

Thank you!