Engineering Transparency in the news

GenAI Zürich
2024-05-29

Robert Caulk, PhD & Elin Törnquist, PhD
CEO *Director of Transparency*

Team:
Timothy Pogue, Wagner Costa Santos, Emre Suzen

Emergent Methods

Our background

Engineers and Researchers committed to FOSS

- **Applying** AI to real-time adaptive modeling challenges
- **Scaling** software in all directions
- **Enriching** data for other businesses
- **Performing** research

AskNews

Demand transparent news.
https://asknews.app

flowdapt

FOSS

Real-time cluster orchestration
https://flowdapt.ai

MELISSA

FOSS

Large-scale deep-learning for supercomputers
https://melissa.gitlabpages.inria.fr/melissa/

FreqAI

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AI/ML for algo-trading
https://www.freqtrade.io/en/stable/freqai/

Manifest

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Modern configuration
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DATASIEVE

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Data pipelining
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Why do we need to engineer transparency in the news?

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EU Artificial Intelligence Act

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- Transparency Requirements:
  - Outlining news selection processes

EU Artificial Intelligence Act

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EU Artificial Intelligence Act

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  - Observing copyright law

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⚠️ These are Insufficient!

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Beyond the EU AI Act

- Enforcing journalistic standards 📰
  - Stating claims with supporting **evidence** and **attribution**
  - AP style-guidelines and formatting

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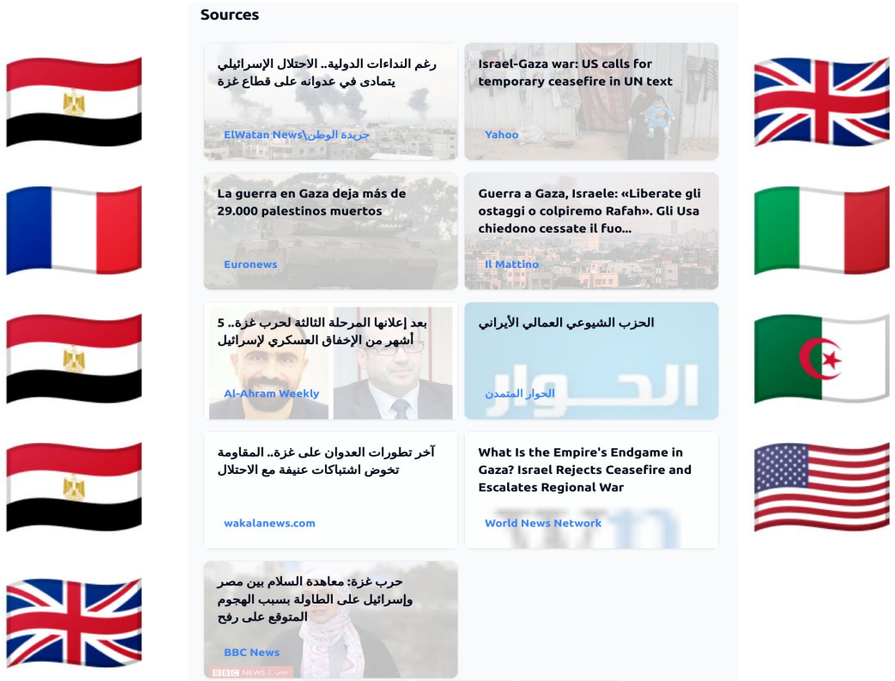
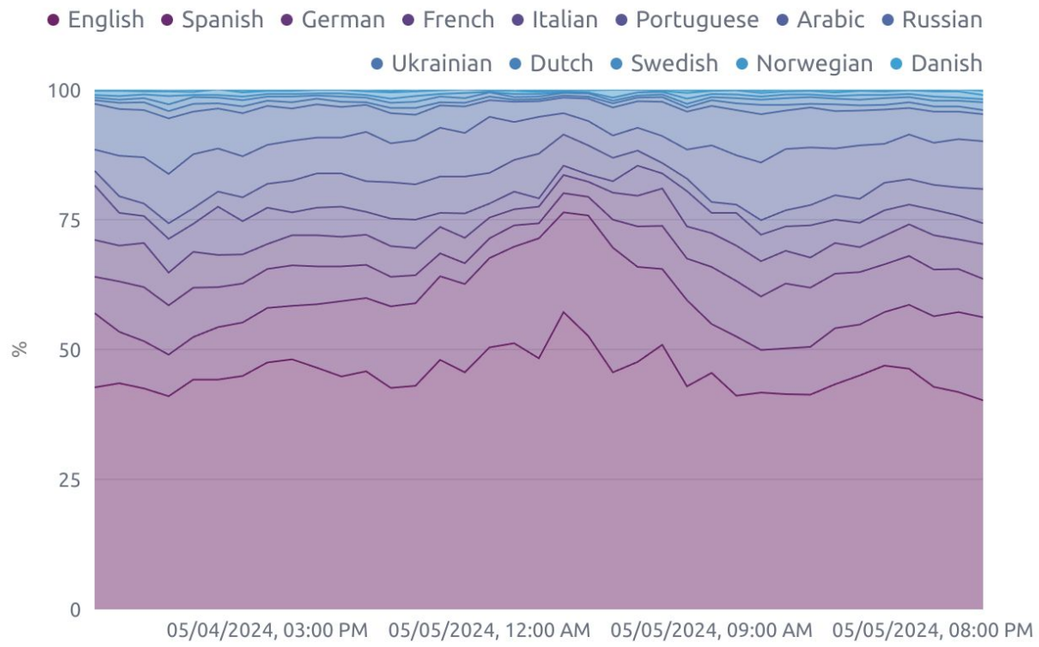
Motivations for engineering news context

- Enforcing journalistic standards 📰
  - Stating claims with supporting **evidence** and **attribution**
  - AP style-guidelines and formatting
- Enforcing source and language diversity for democratized representation 🇪🇺
  - Representing **diverse perspectives** on global issues





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  - Missing the latest news can cause **disinformation**, customer dissatisfaction, and **confusion**

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- Minimizing hallucination 🫣
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- Minimizing hallucination 🤦
  - The cost of hallucination is too high, **a team of researchers is required**
- Distributing EU AI Act compliant transparent news to companies and developers who are focused on their own LLM applications 🚀

Publicly tracking sources

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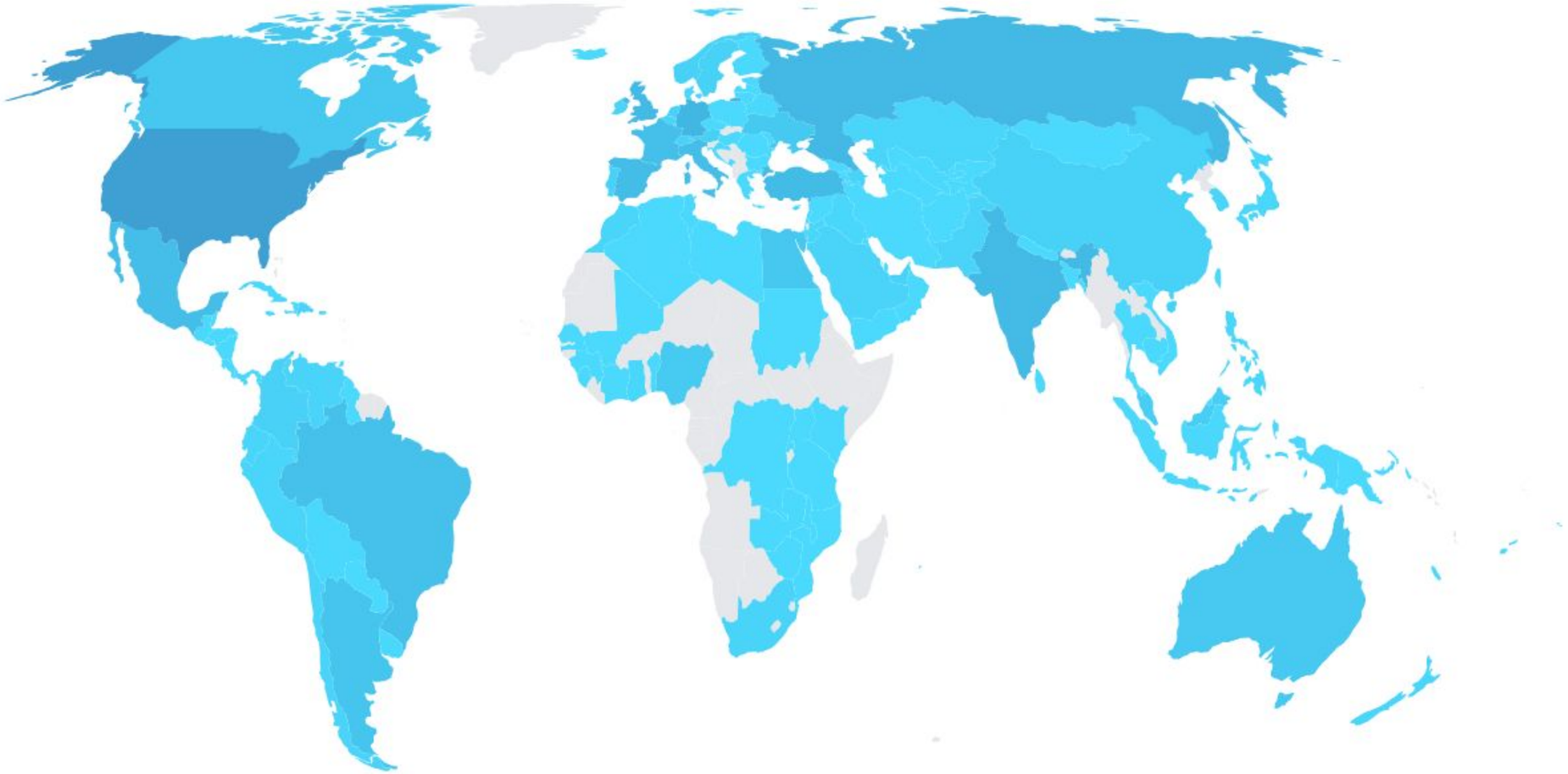
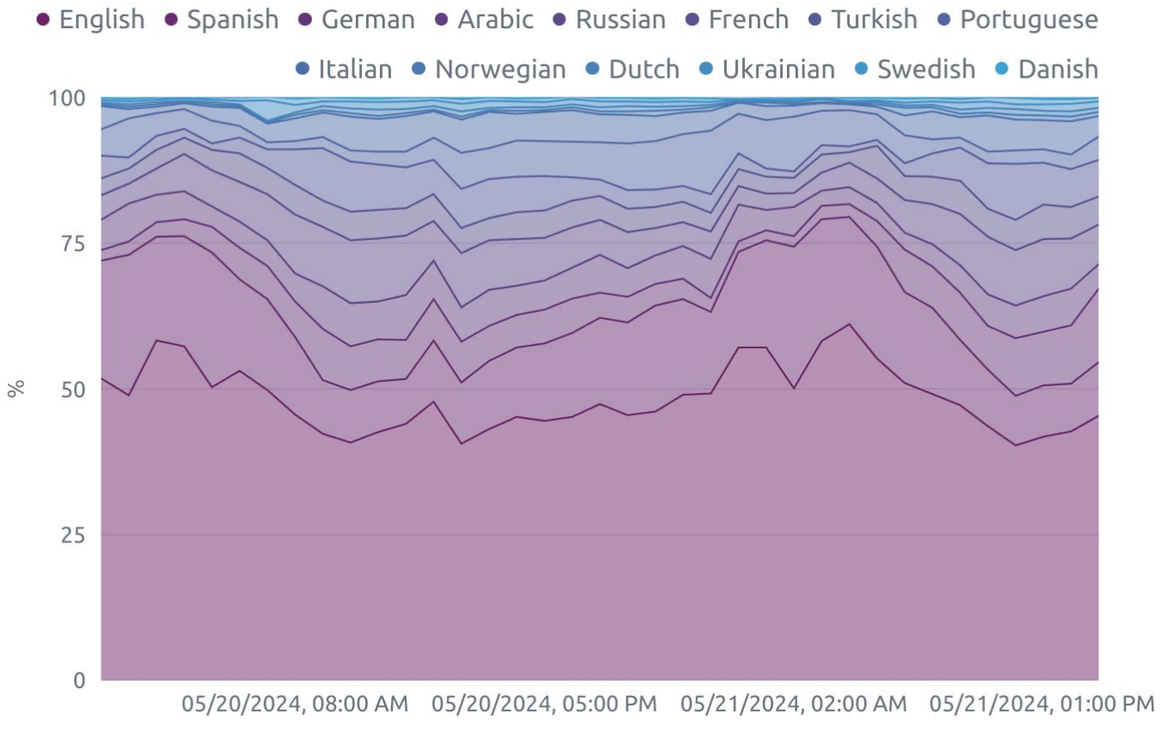
Conveying the origin of information



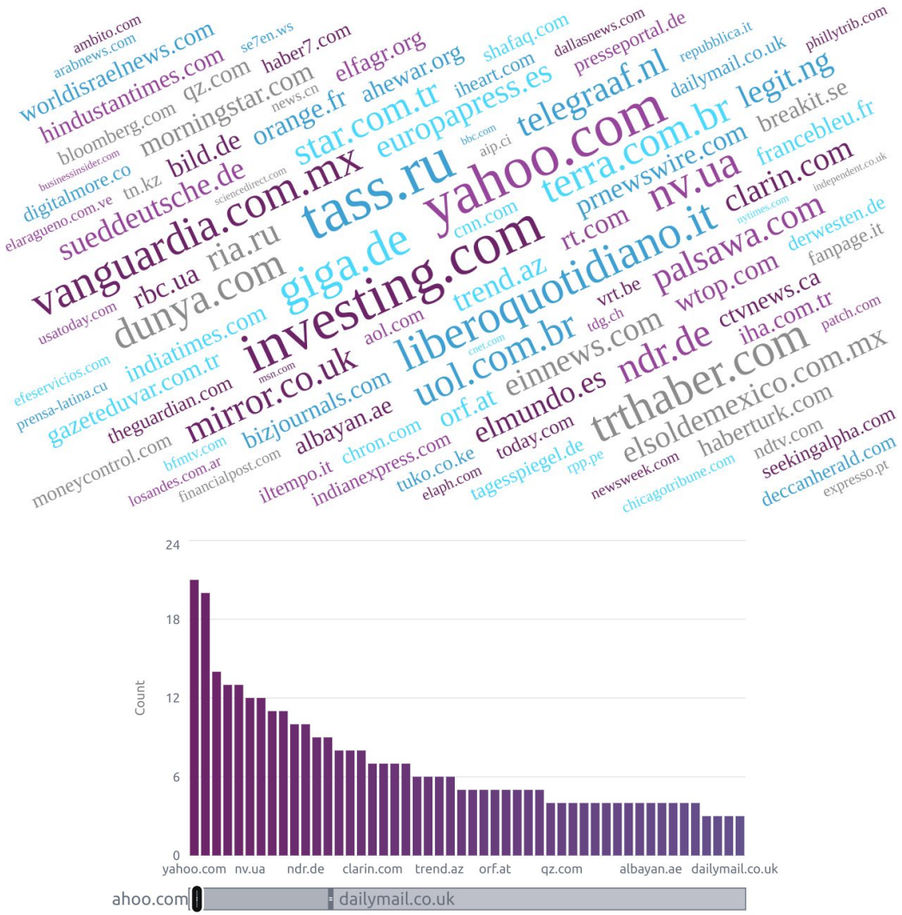
Geographical distribution

Live dashboard:
https://asknews.app/en/transparency

Conveying the origin of information



Linguistic distribution



Source distribution

Live dashboard:
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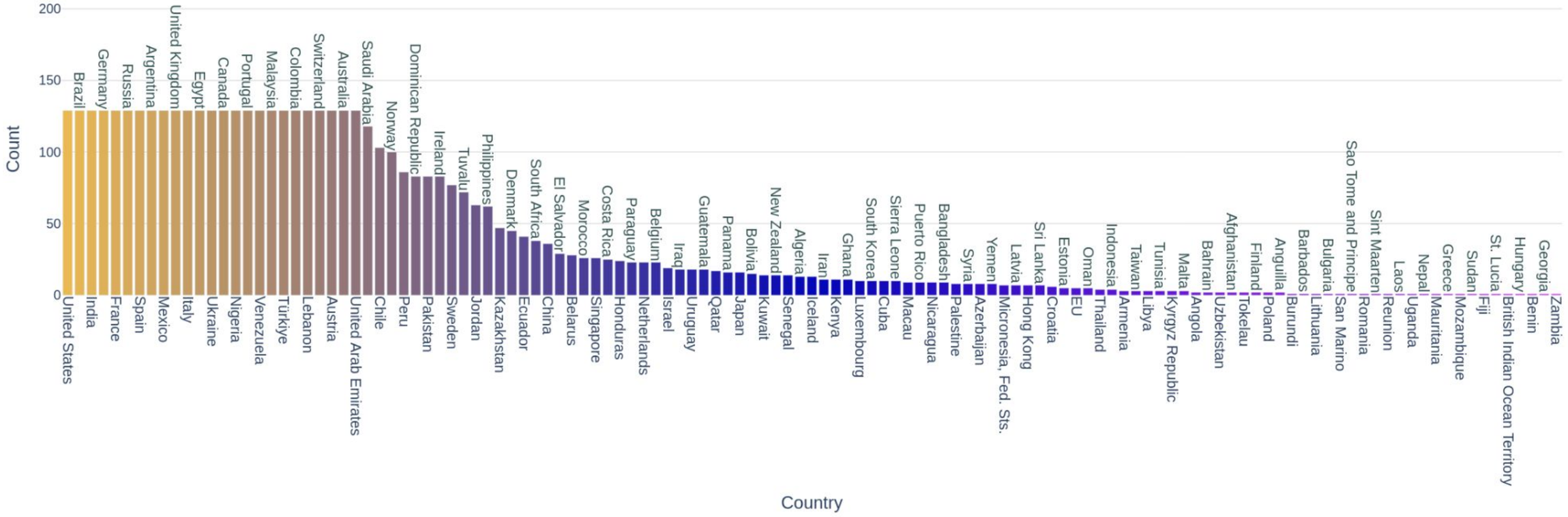
Controlling bias in training data



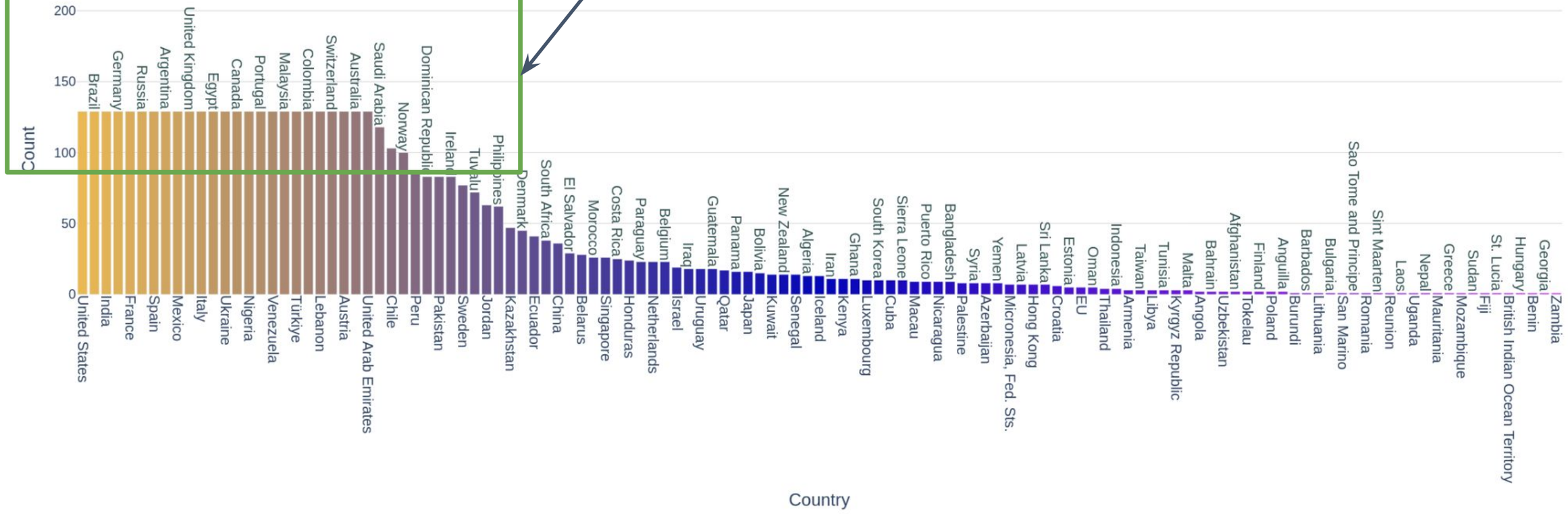
EmergentMethods/gliner_medium_news-v2.1

Updated 1 day ago • 1.91M • 5

https://huggingface.co/EmergentMethods/gliner_medium_news-v2.1

Controlling bias in training data

Balancing the representation of competing perspectives



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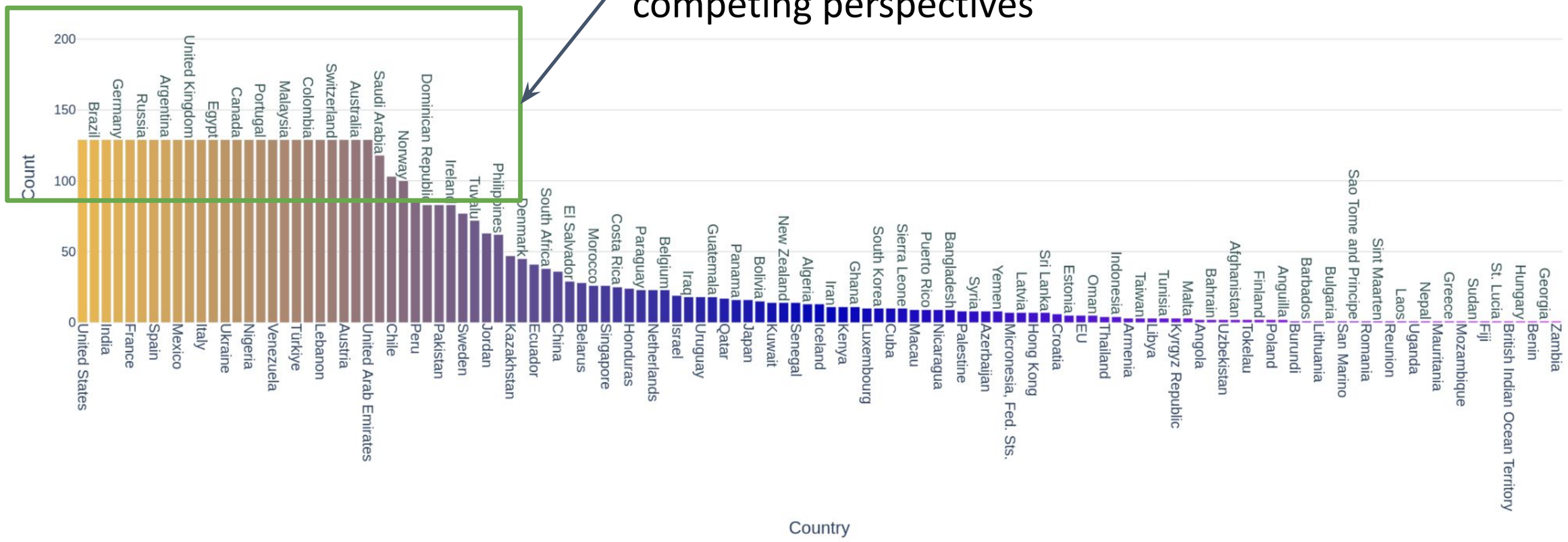

+9.5% improvement across 18 benchmarks 🚀

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A transparent interface

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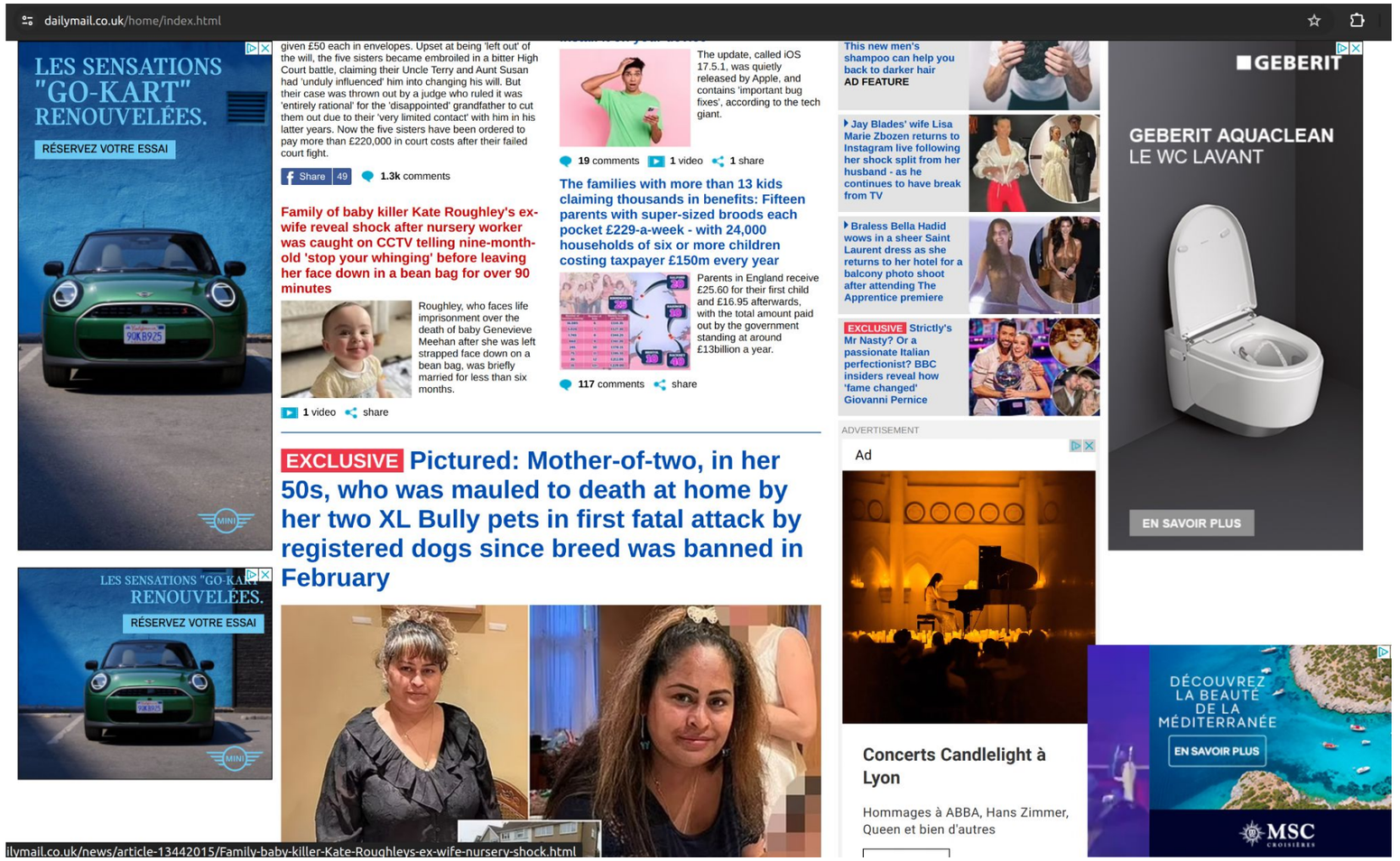
Re-imagining news

- Ads everywhere
- Sensational voice



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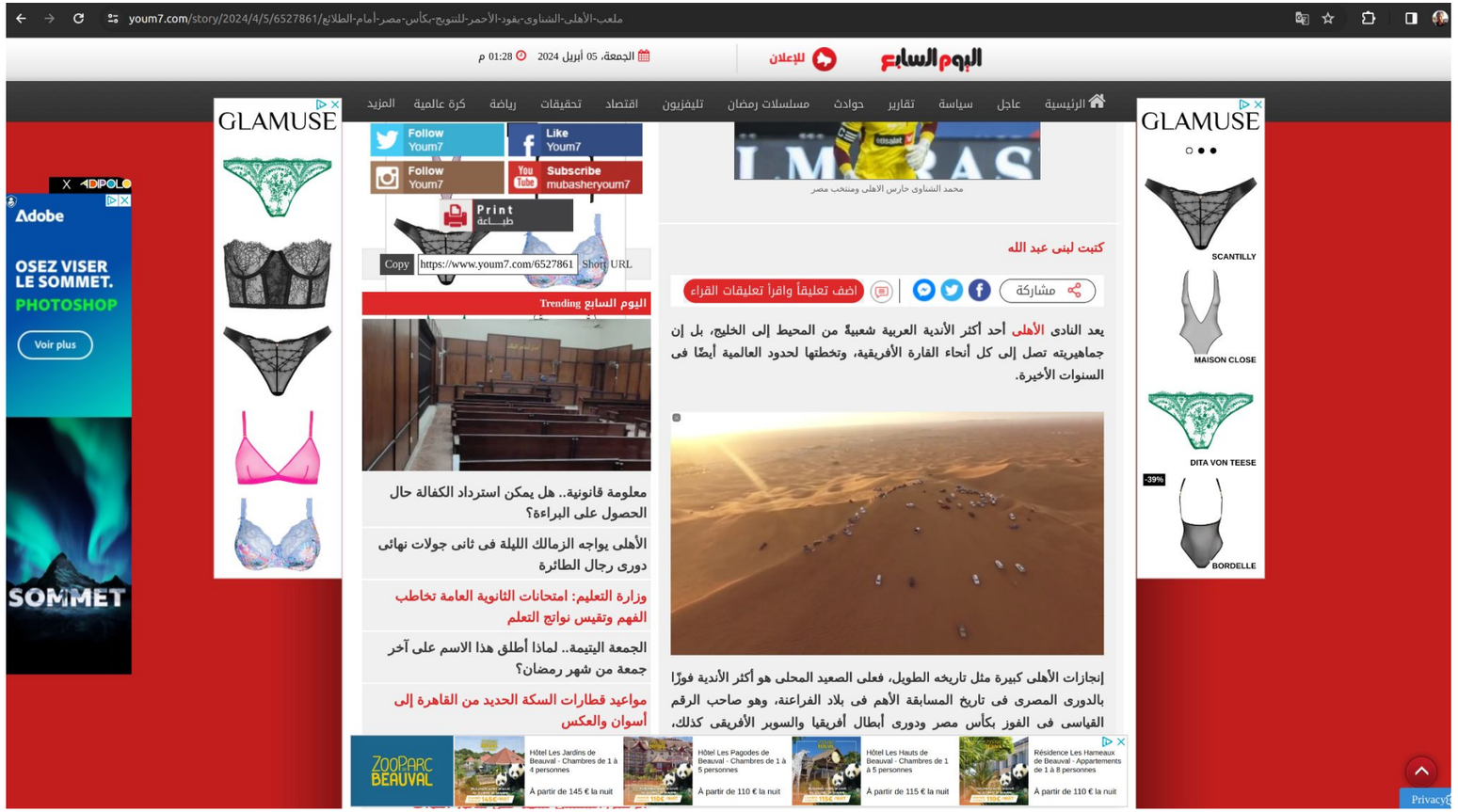

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Enabling exploration

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Shallow — Exploration — Deep

North America

Slightly provocative topic

based on 82 sources

Updated 05/21/2024, 10:50 AM (about 2 hours ago)

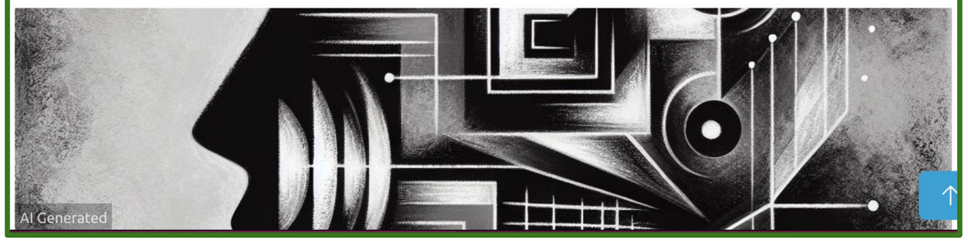
Scarlett Johansson Considers Legal Action Against OpenAI for Voice Misappropriation in ChatGPT

Key Takeaways

- Scarlett Johansson is considering legal action against OpenAI for using a voice similar to hers without permission.
- OpenAI has paused the use of the 'Sky' voice and apologized, stating it was not intended to mimic Johansson's voice.
- The incident has raised global discussions on the ethical use of AI and the need for legislation to protect individual rights.

Contradictions

- OpenAI claims the voice was developed using a combination of voices and not specifically Johansson's, while Johansson and others note an uncanny resemblance.



Quick high-level overview of the event

https://asknews.app/en/stories/Scarlett-Johansson-Considers-Legal-Action-Against-OpenAI-for-Voice-Misappropriation-in-ChatGPT

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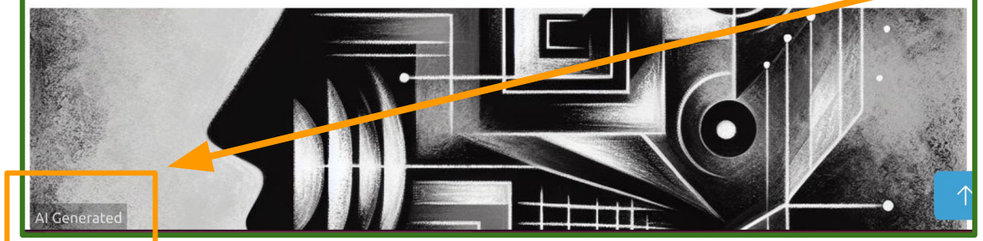

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Labeling AI generated information, EU AI Act

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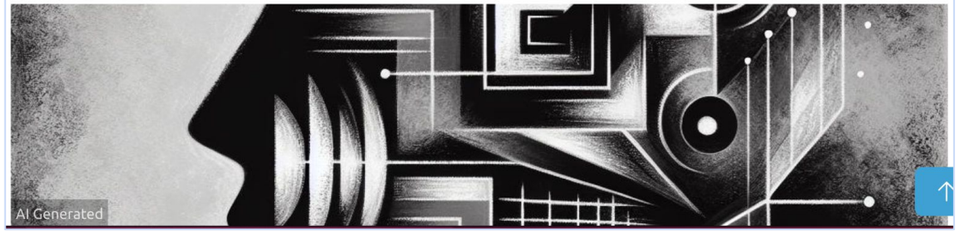

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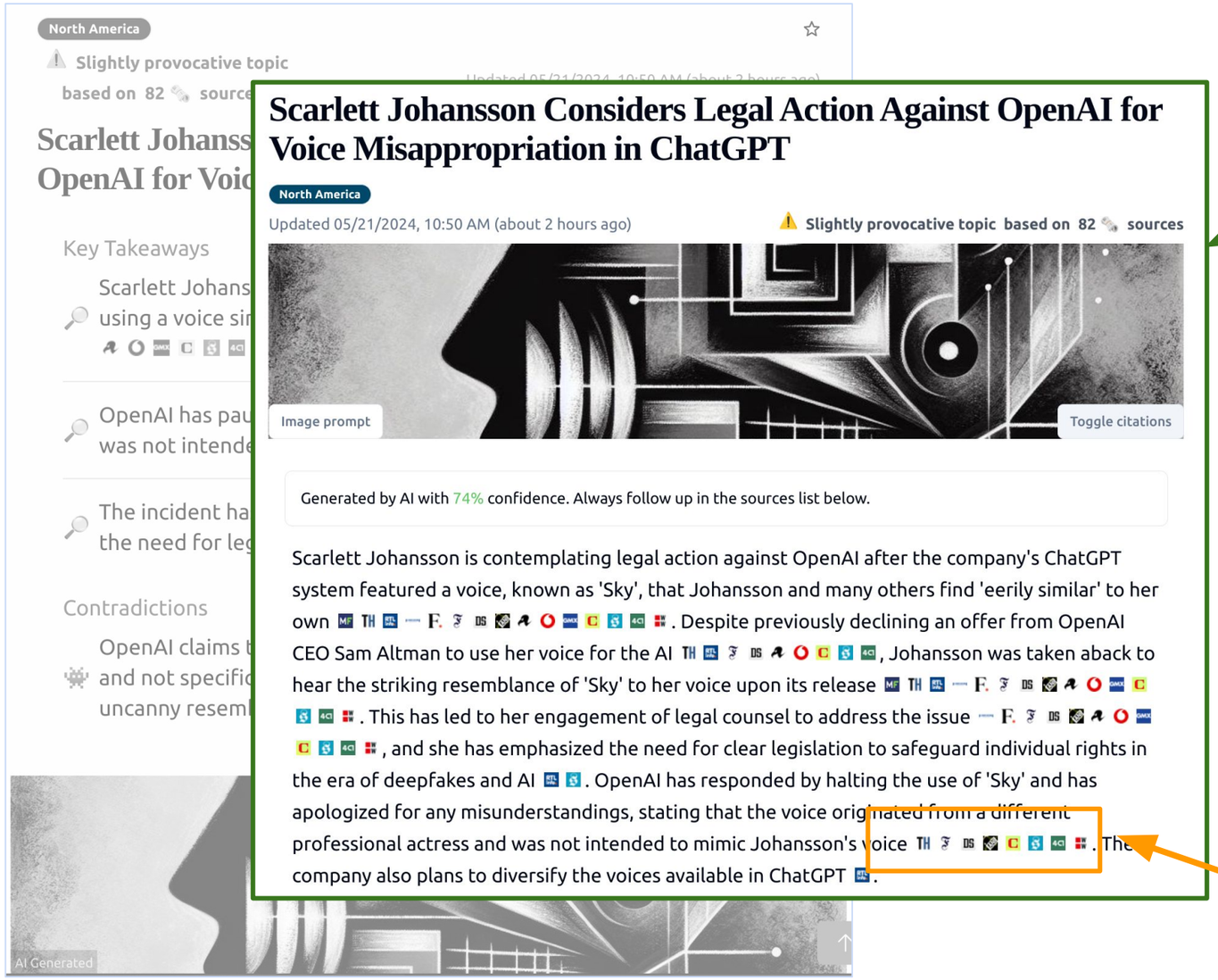

Detailed story for readers interested in finding more

Citing statements with sources, EU AI Act

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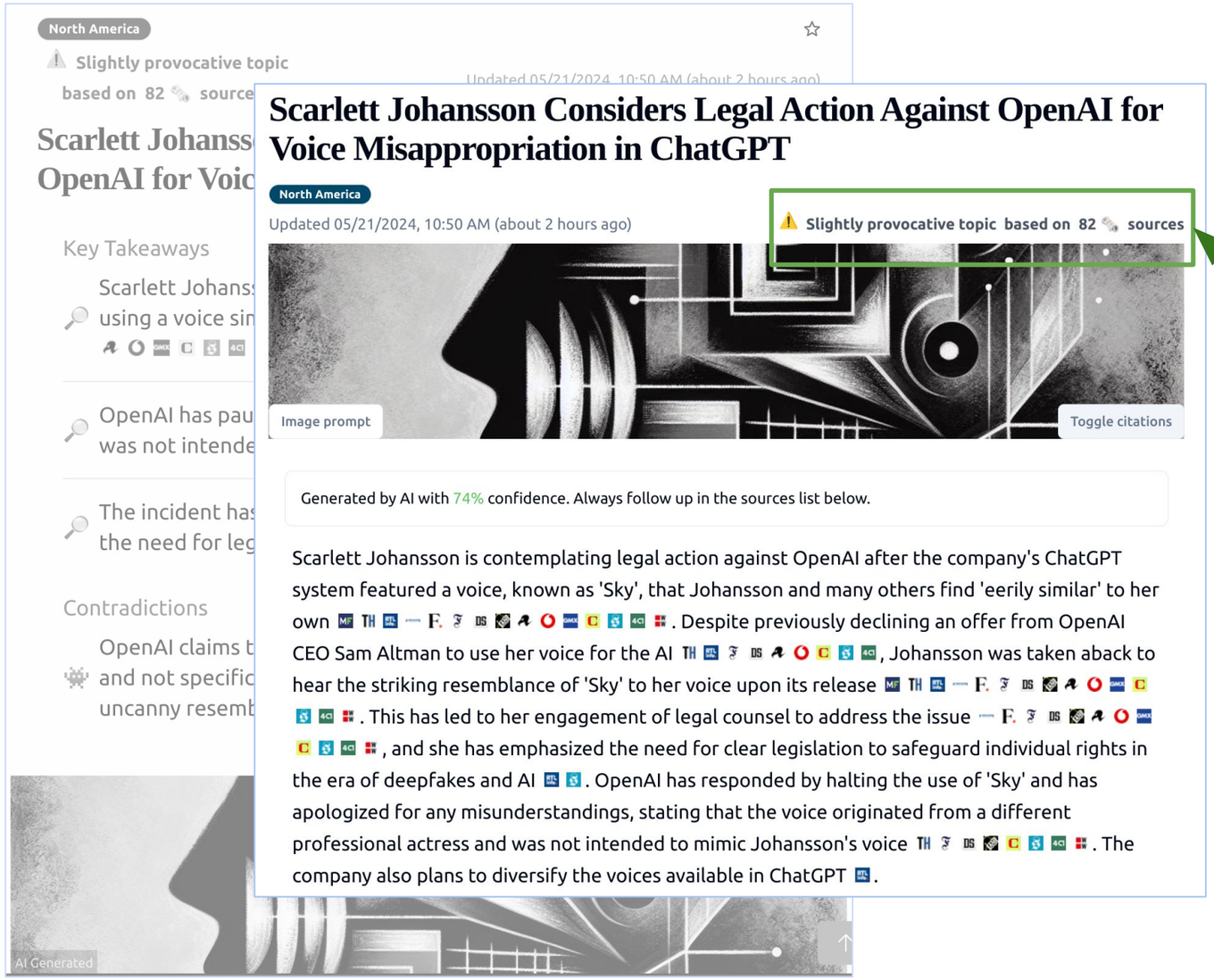

Transparency into the underlying reporting

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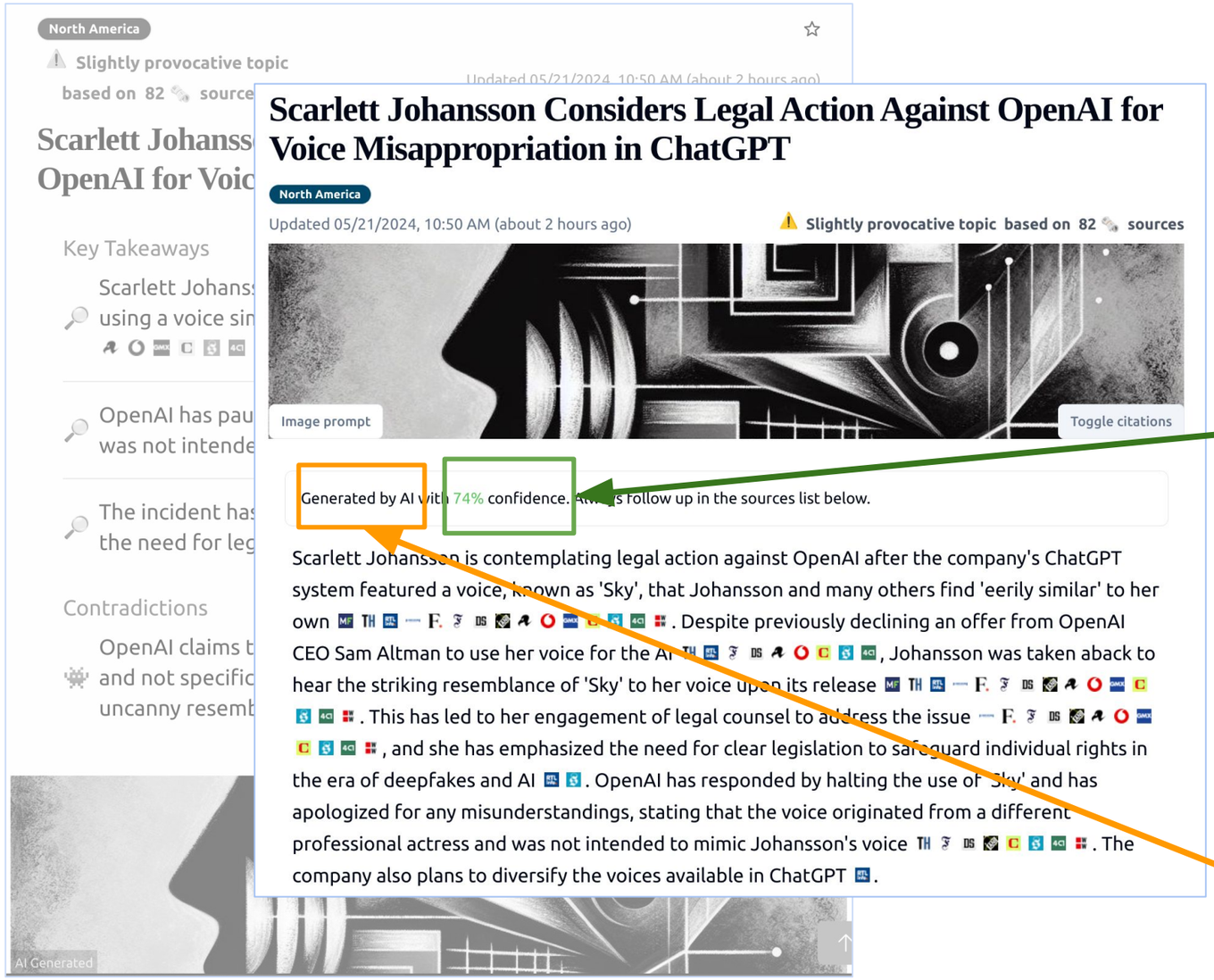

Transparency into the confidence of the AI model

Labeling AI generated information, EU AI Act

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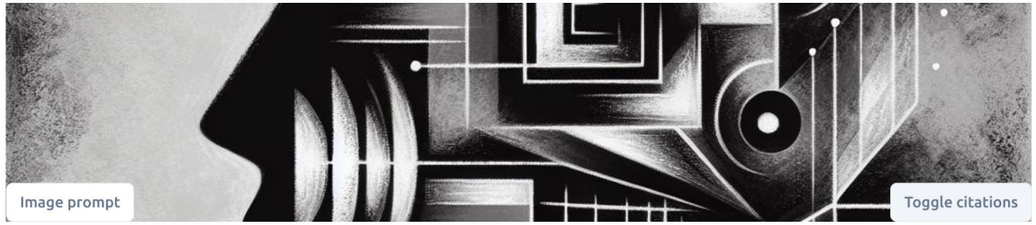
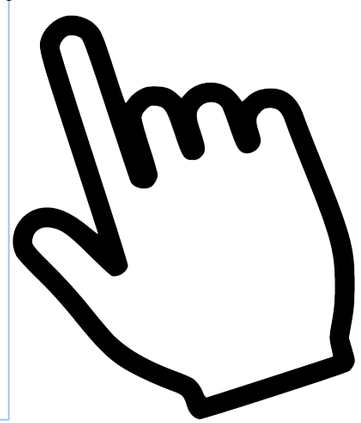


Generated by AI with 74% confidence. Always follow up in the sources list below.

Scarlett Johansson is contemplating legal action against OpenAI after the company's ChatGPT system featured a voice, known as 'Sky', that Johansson and many others find 'eerily similar' to her own. Despite previously declining an offer from OpenAI CEO Sam Altman to use her voice for the AI, Johansson was taken aback to hear the striking resemblance of 'Sky' to her voice upon its release. This has led to her engagement of legal counsel to address the issue, and she has emphasized the need for clear legislation to safeguard individual rights in the era of deepfakes and AI. OpenAI has responded by halting the use of 'Sky' and has apologized for any misunderstandings, stating that the voice originated from a different professional actress and was not intended to mimic Johansson's voice. The company also plans to diversify the voices available in ChatGPT.



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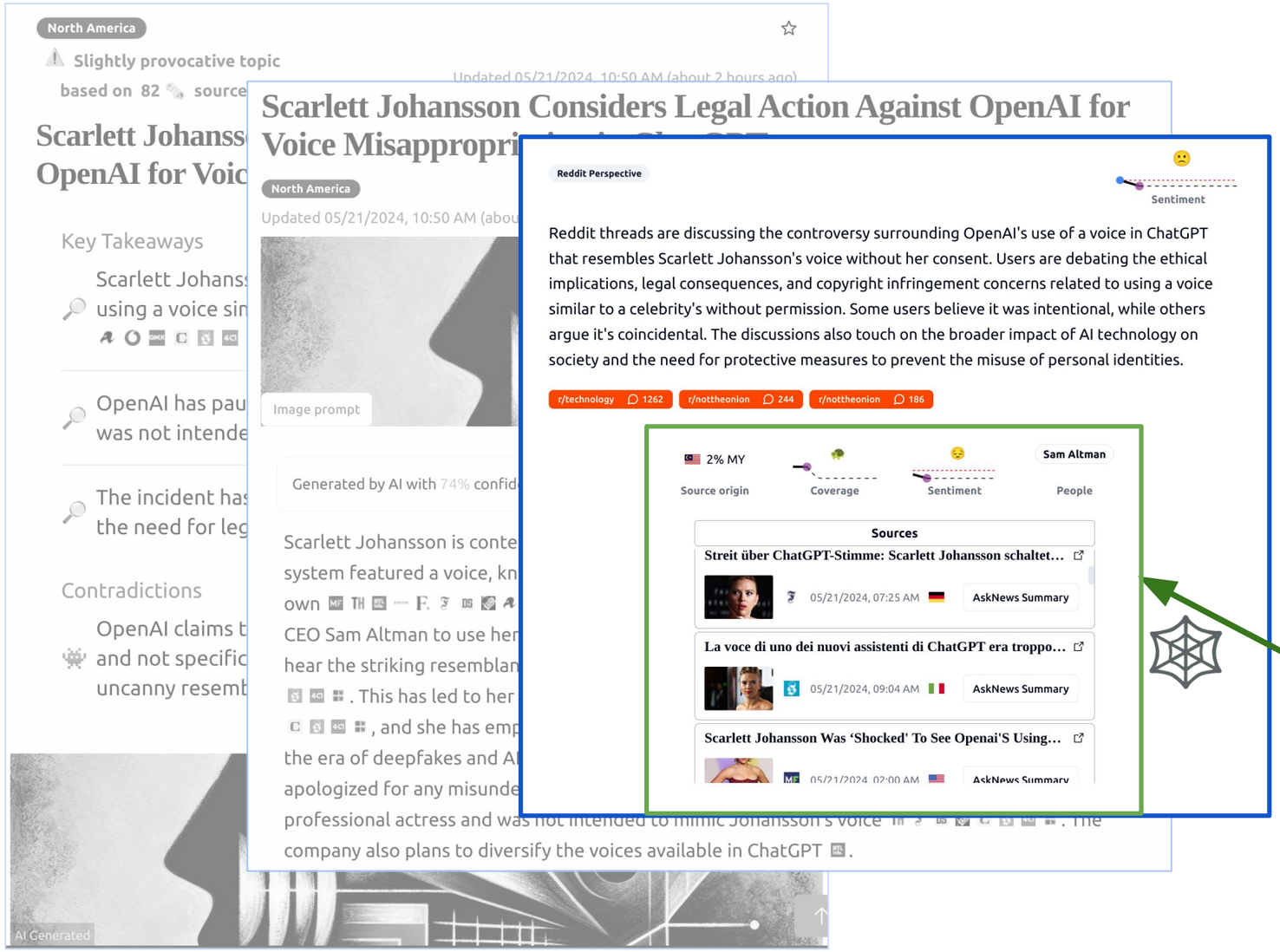

Explore multilingual sources

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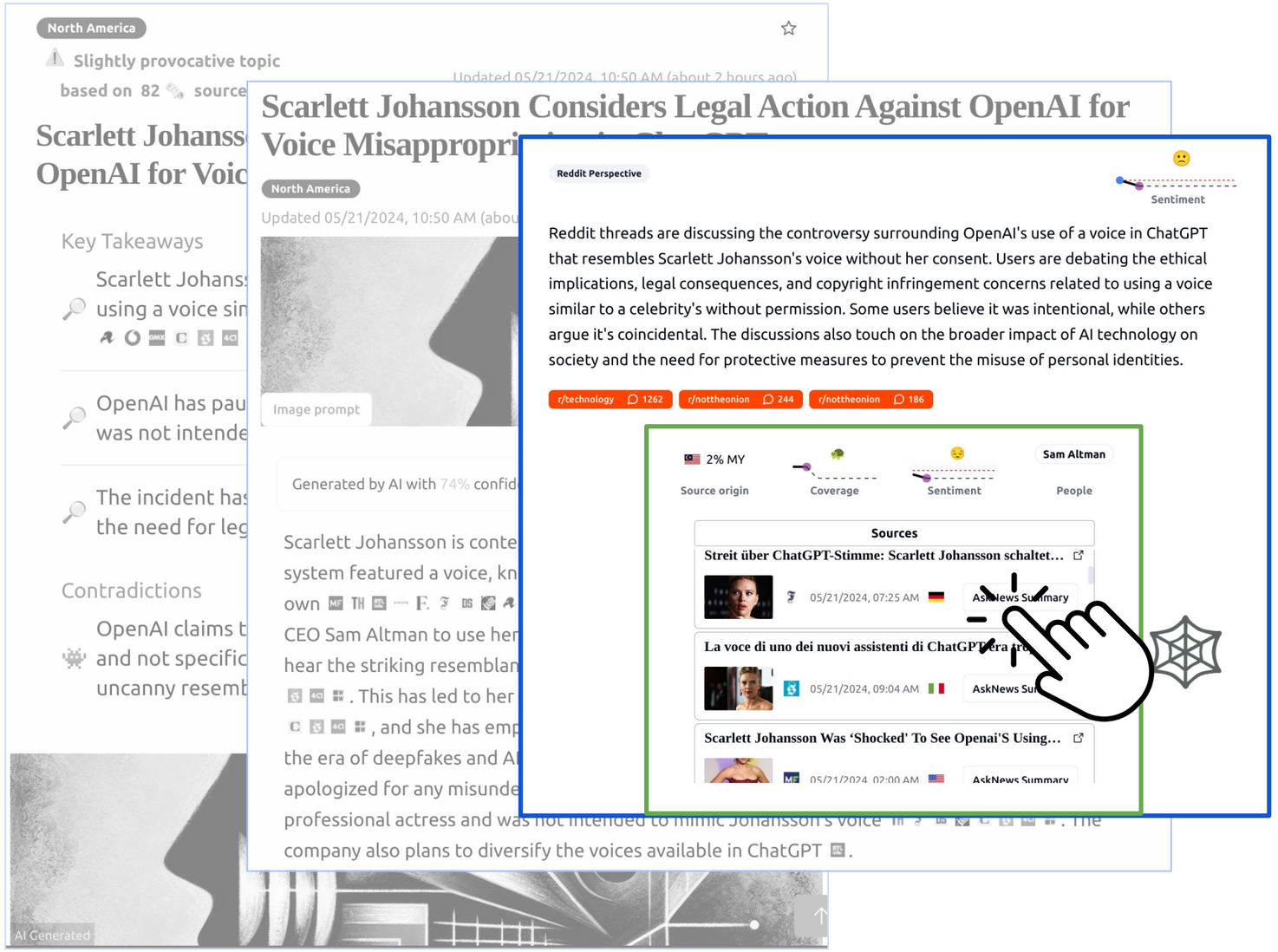

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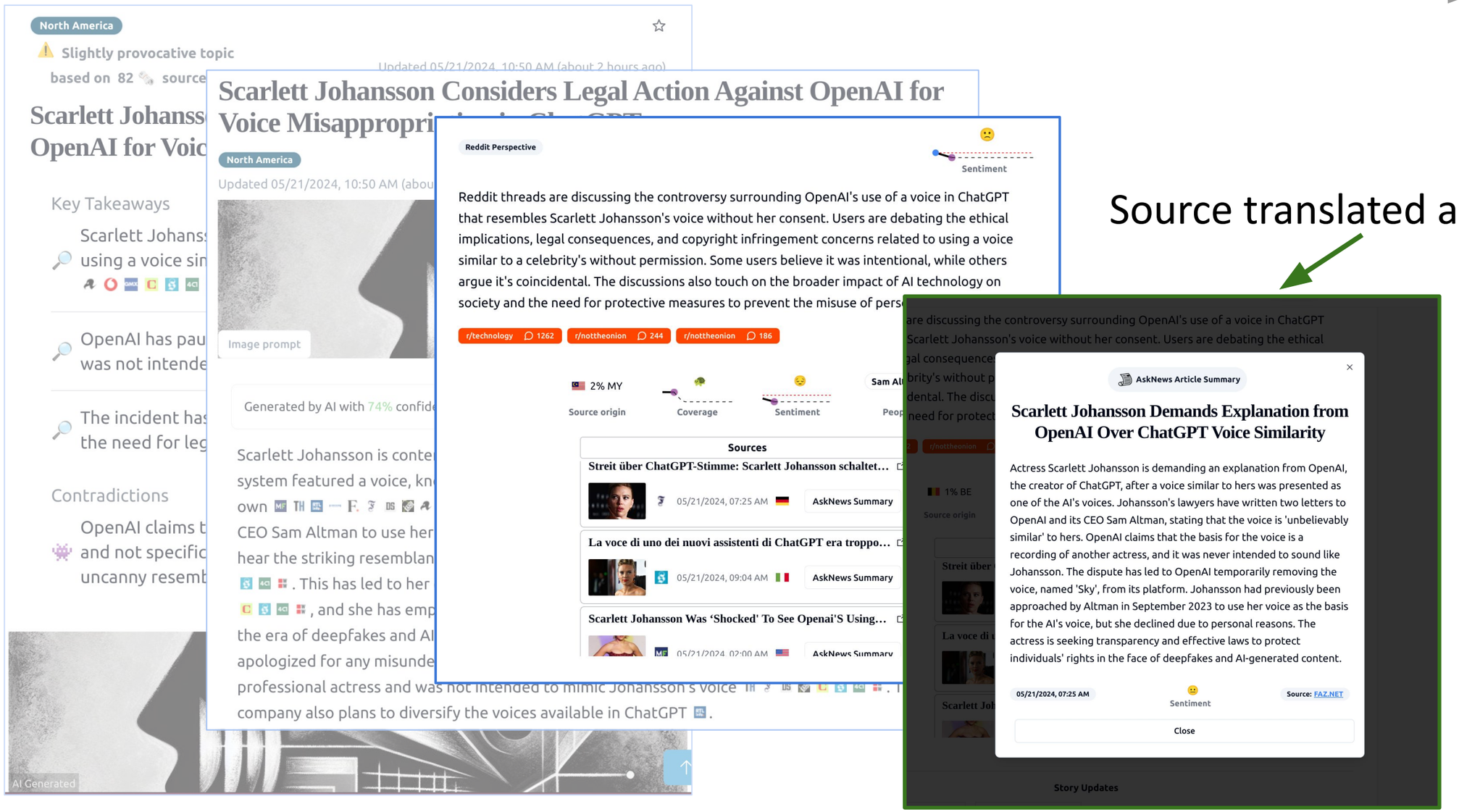

Source translated and summarized

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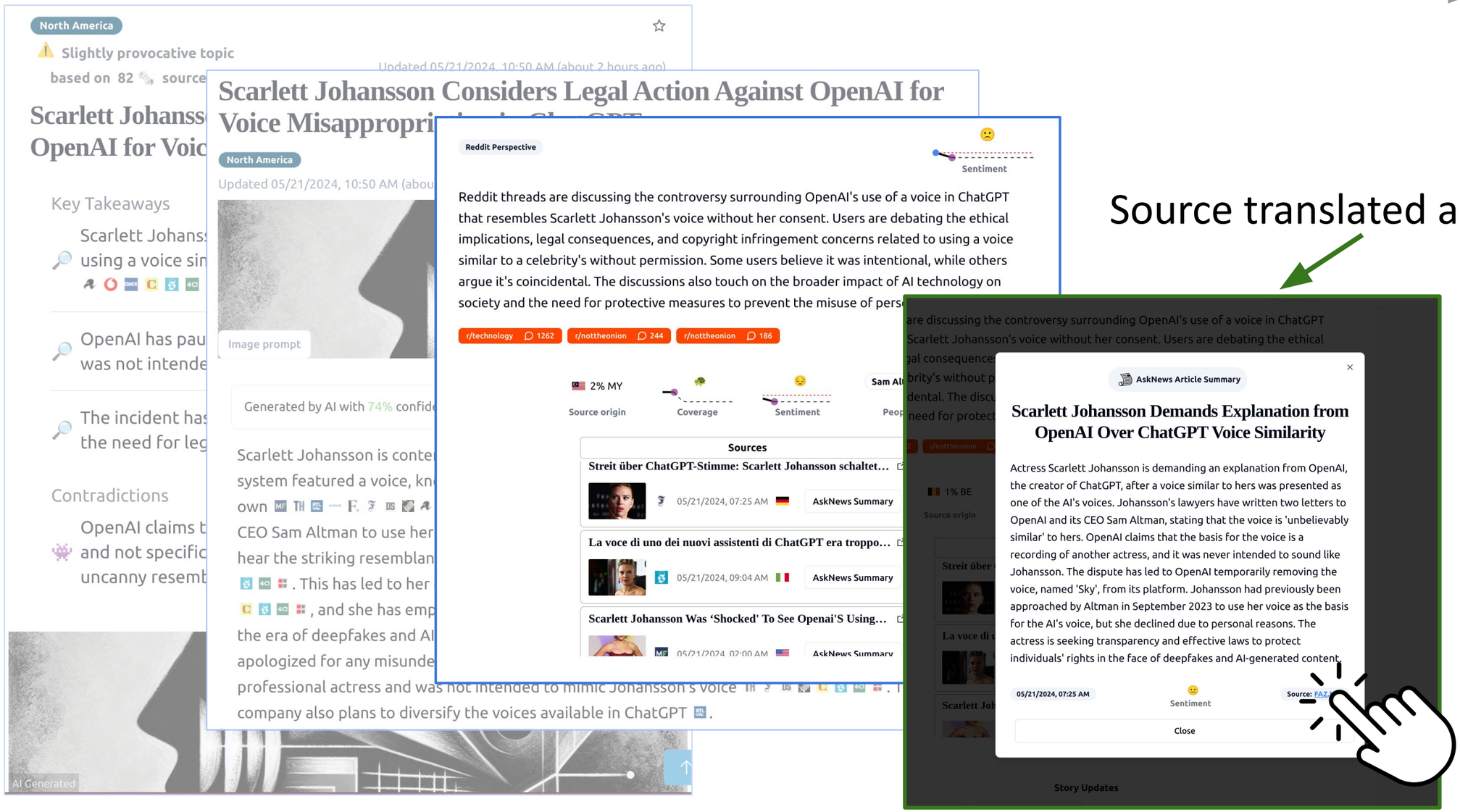

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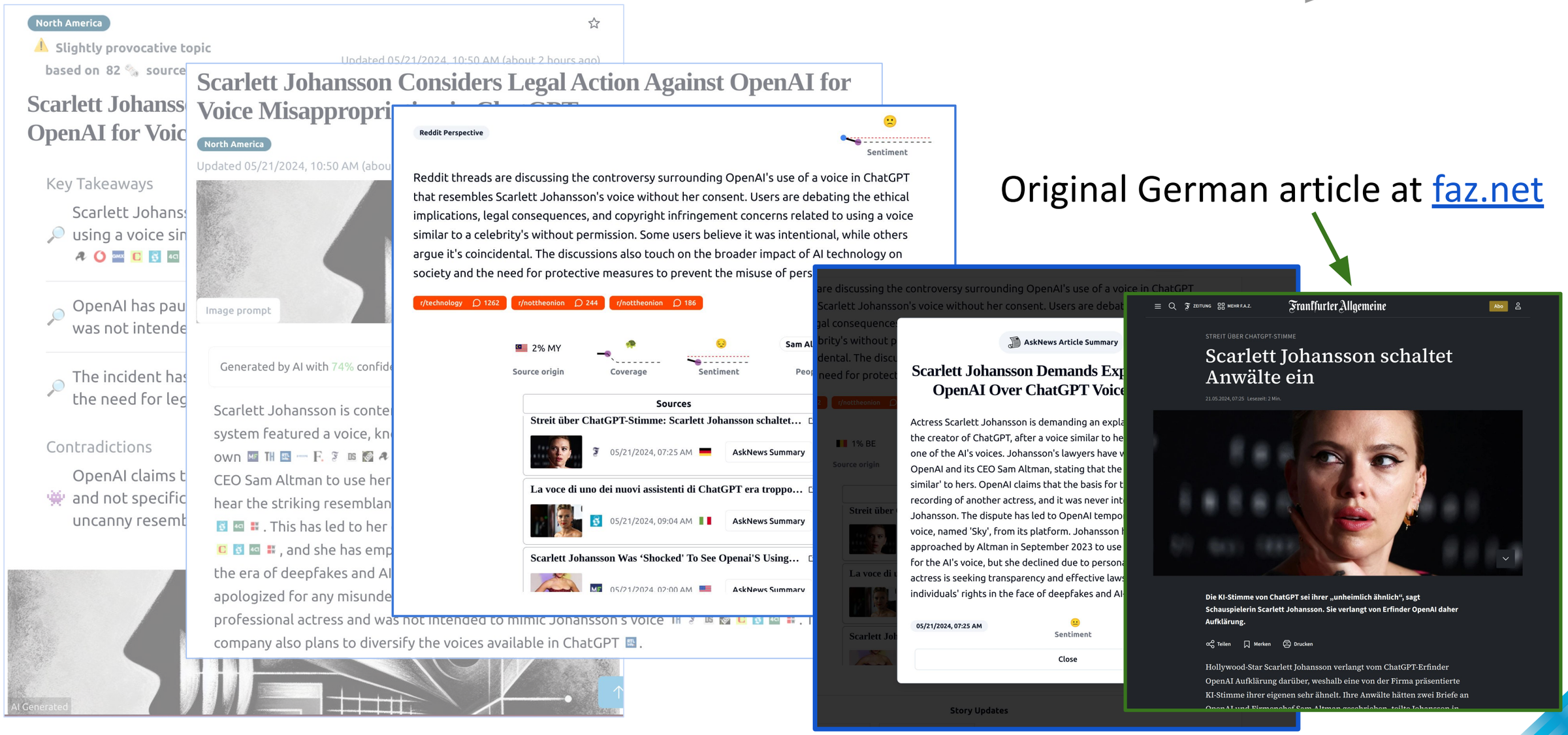
Original German article at faz.net



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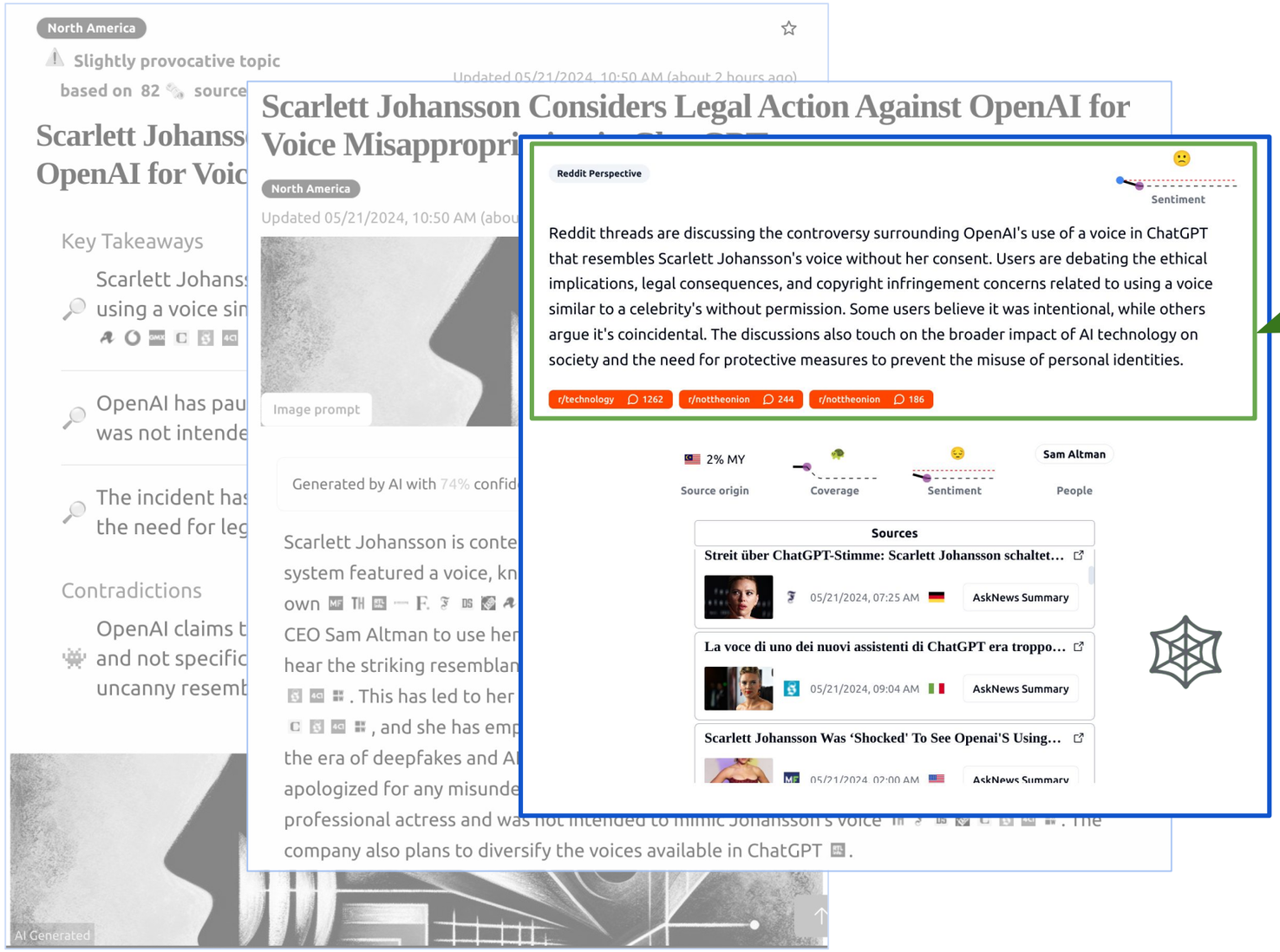

Social overview

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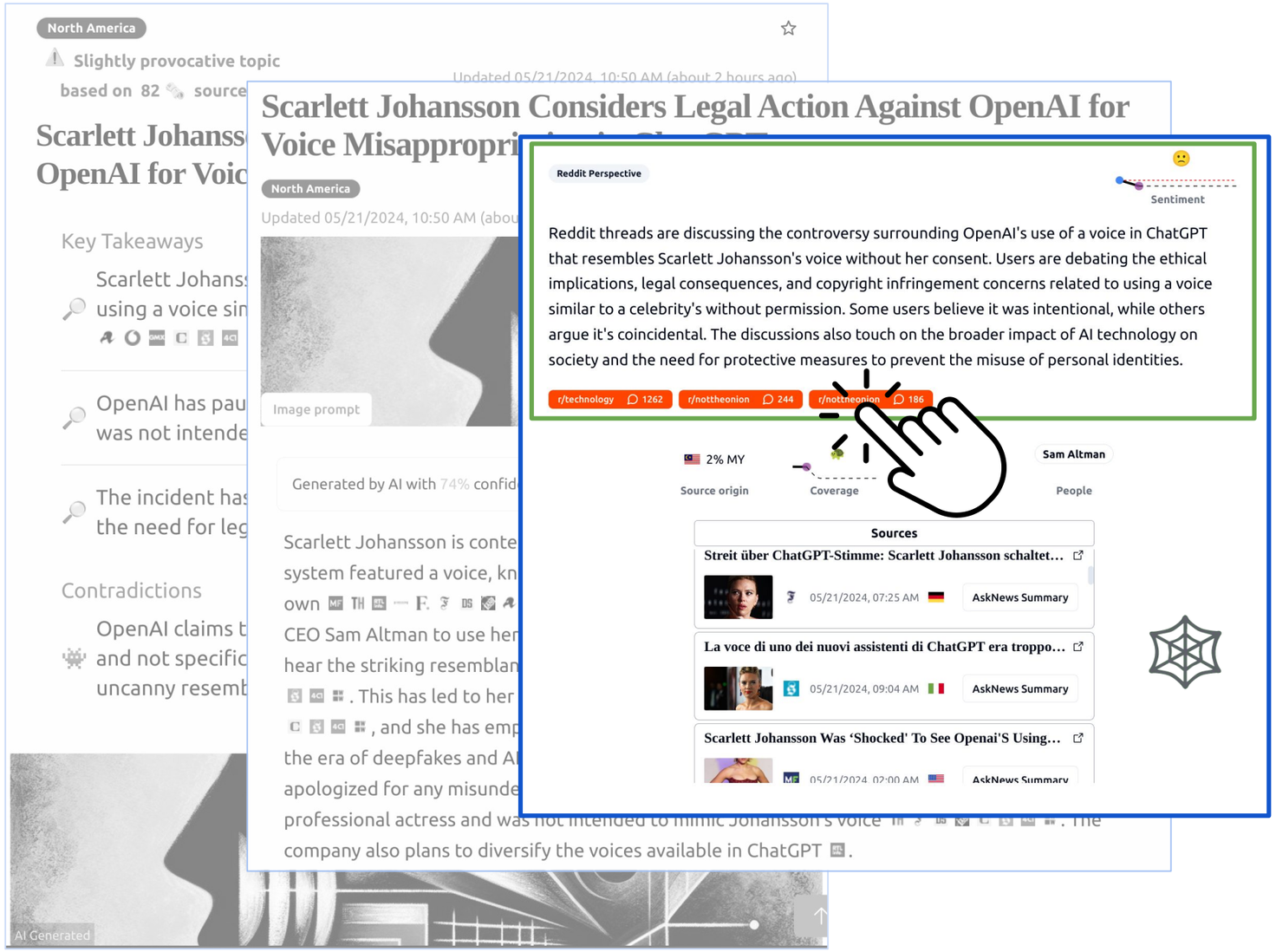

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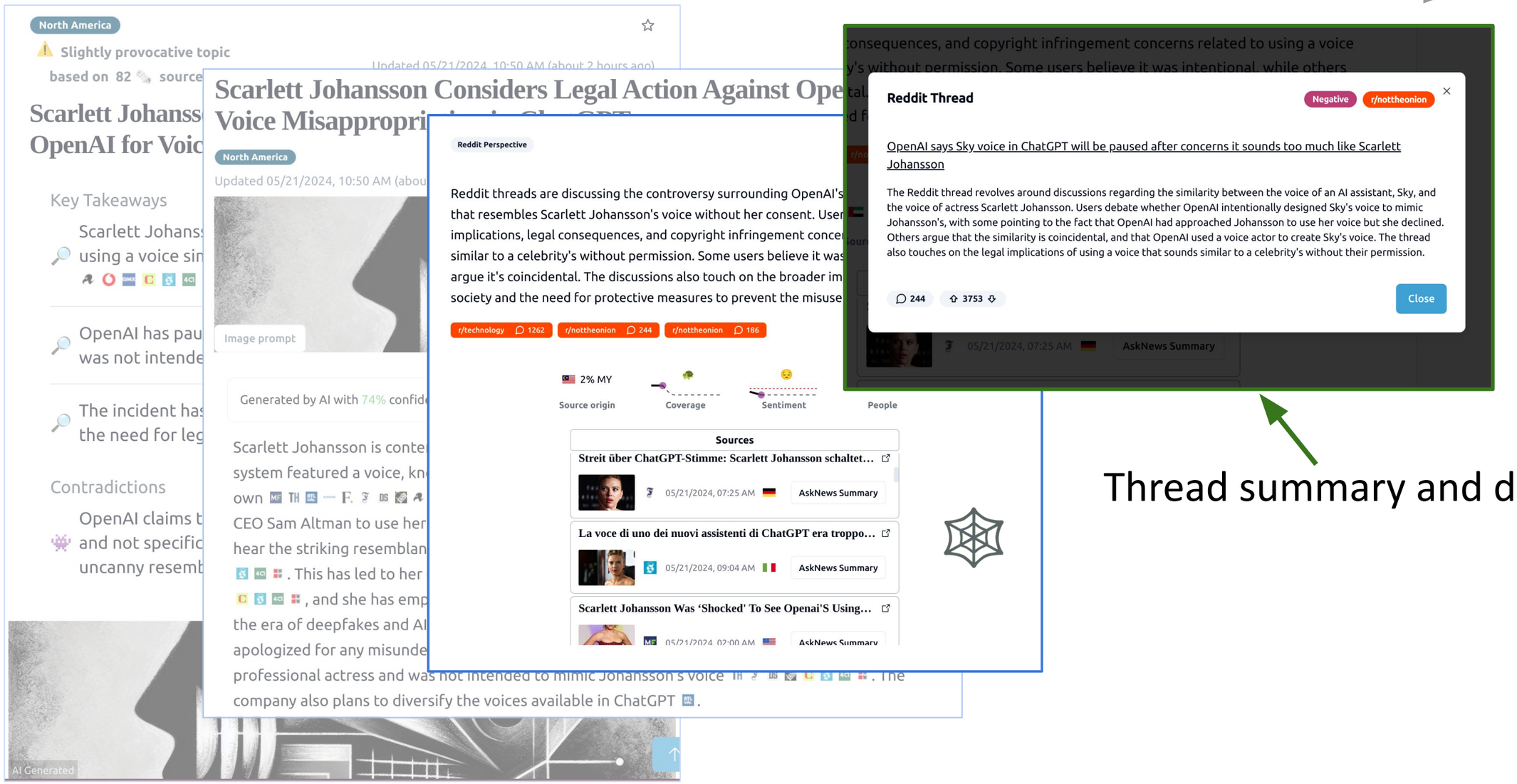

Thread summary and details

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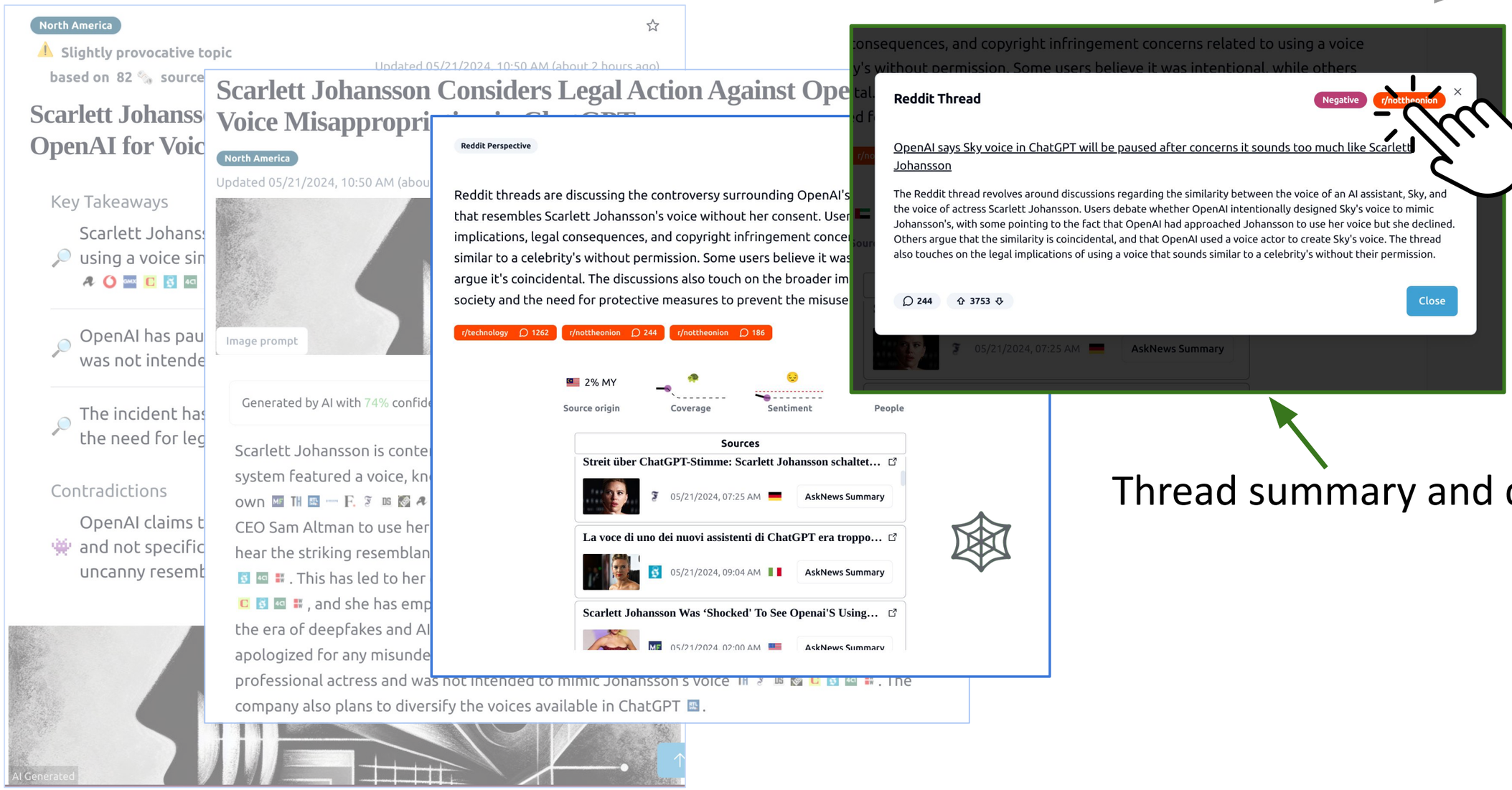

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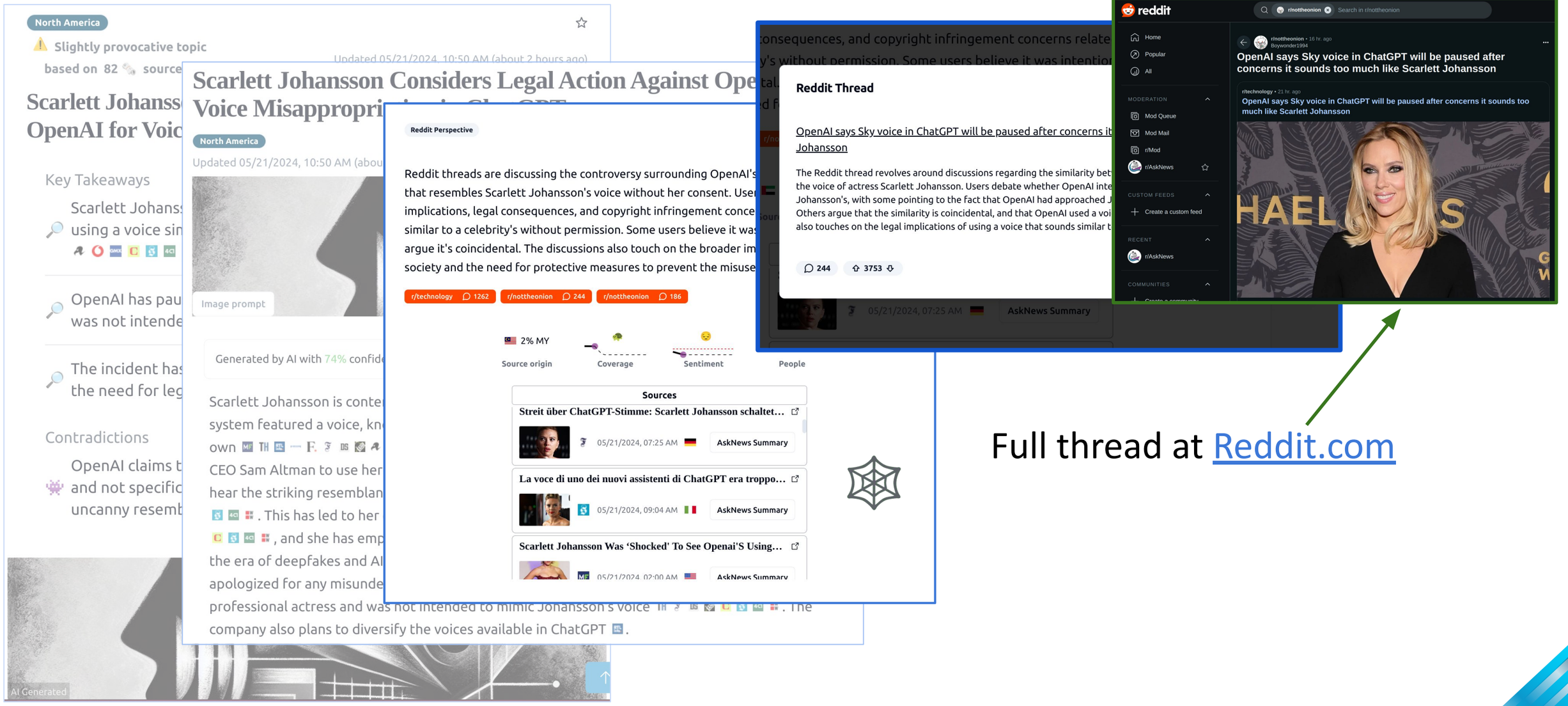

Full thread at Reddit.com

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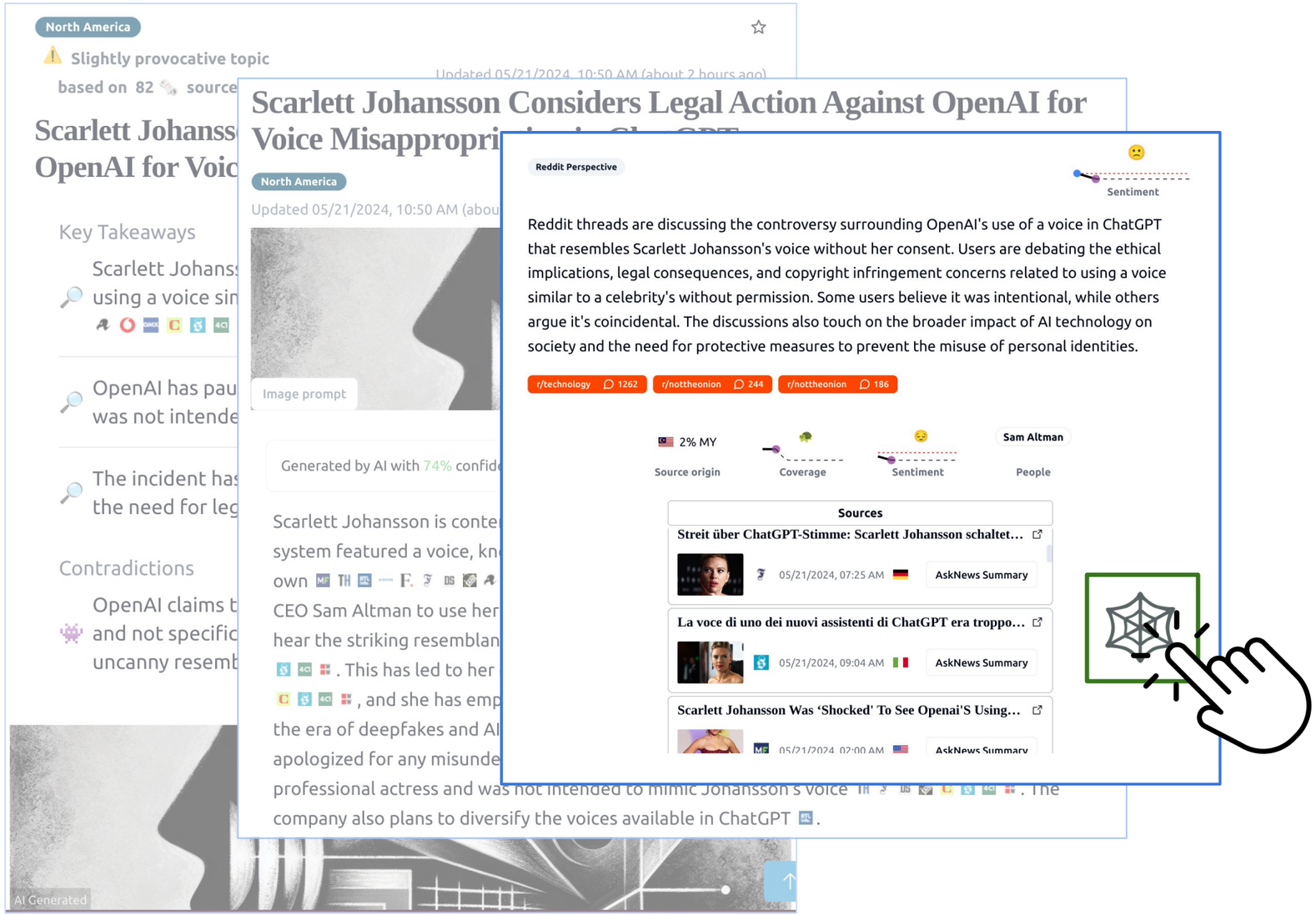

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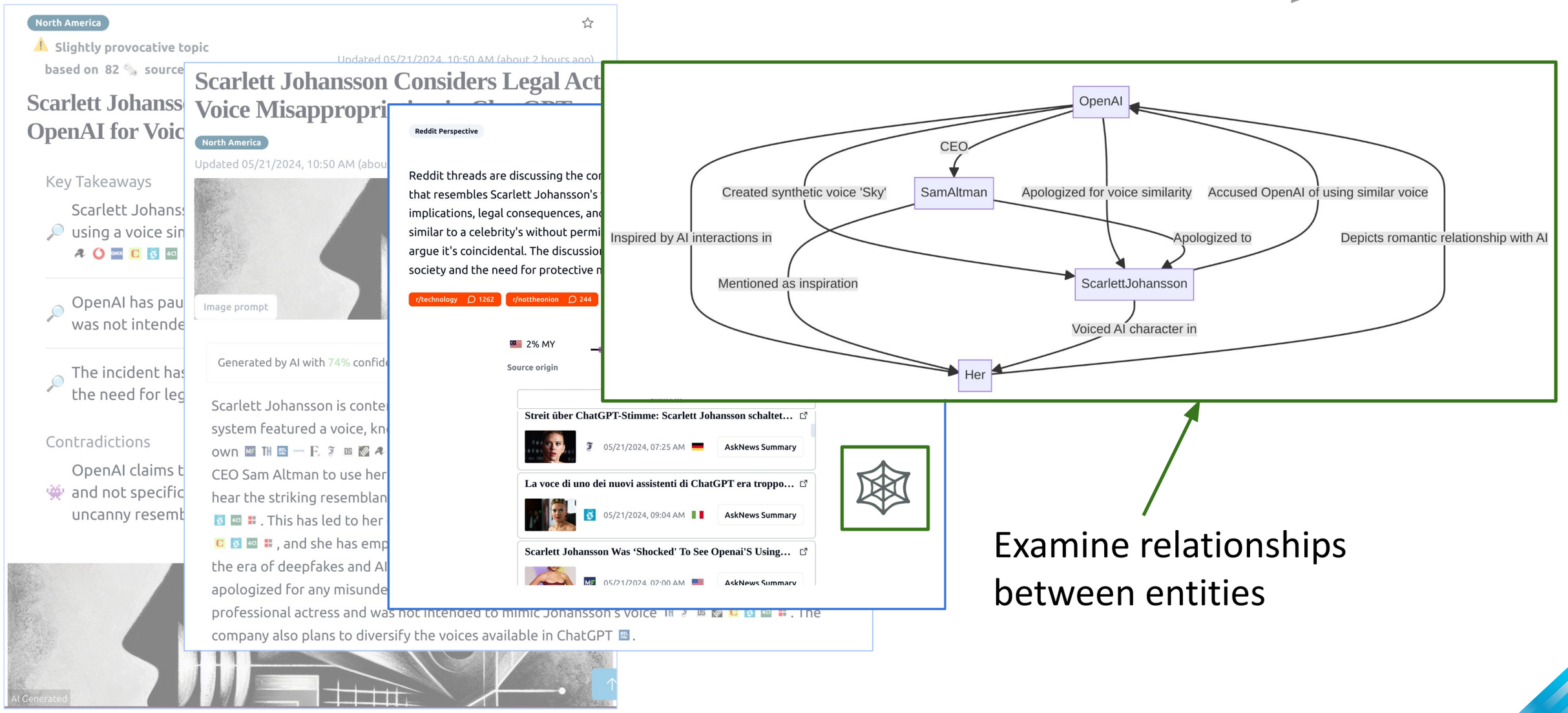
Enabling exploration

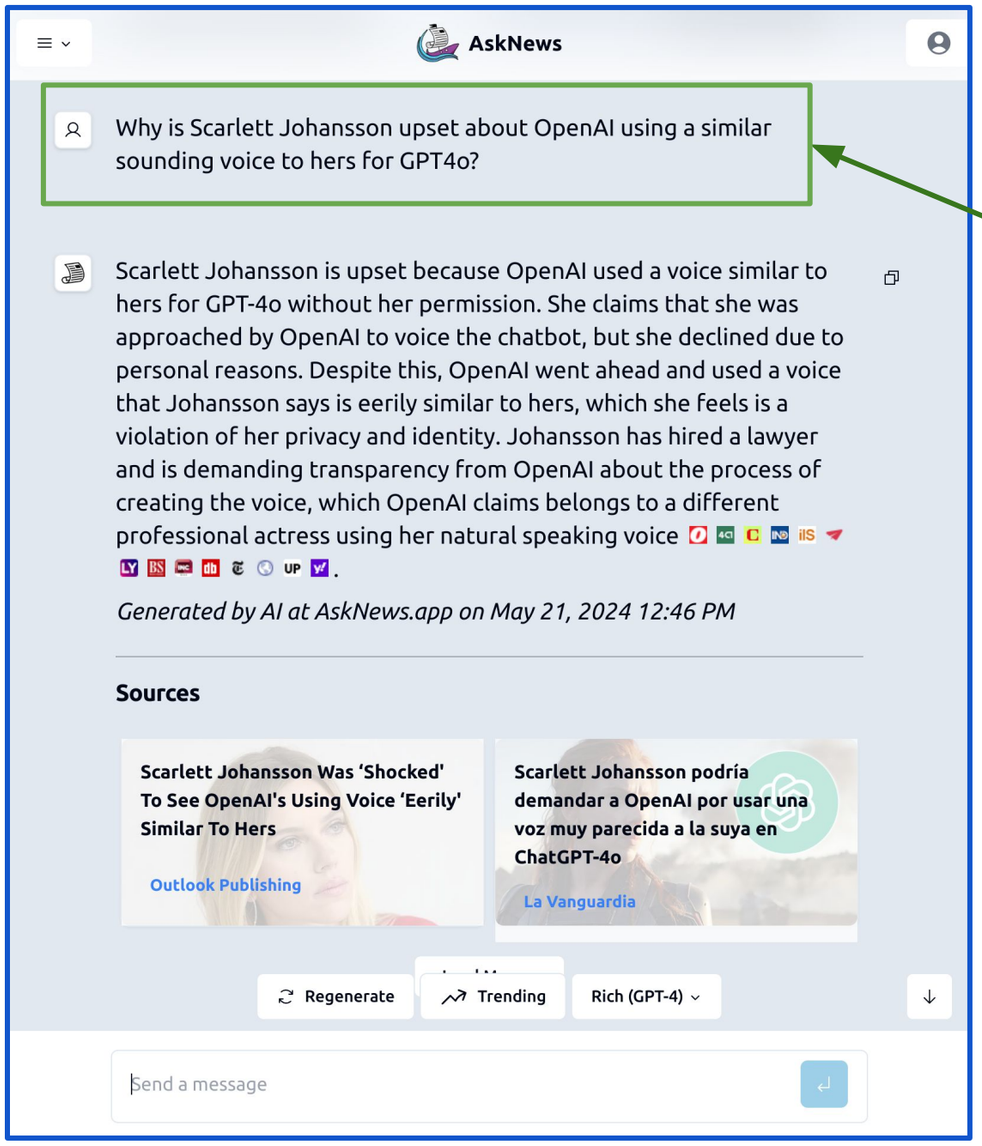
Shallow — Exploration — Deep



Examine relationships between entities

Enabling exploration

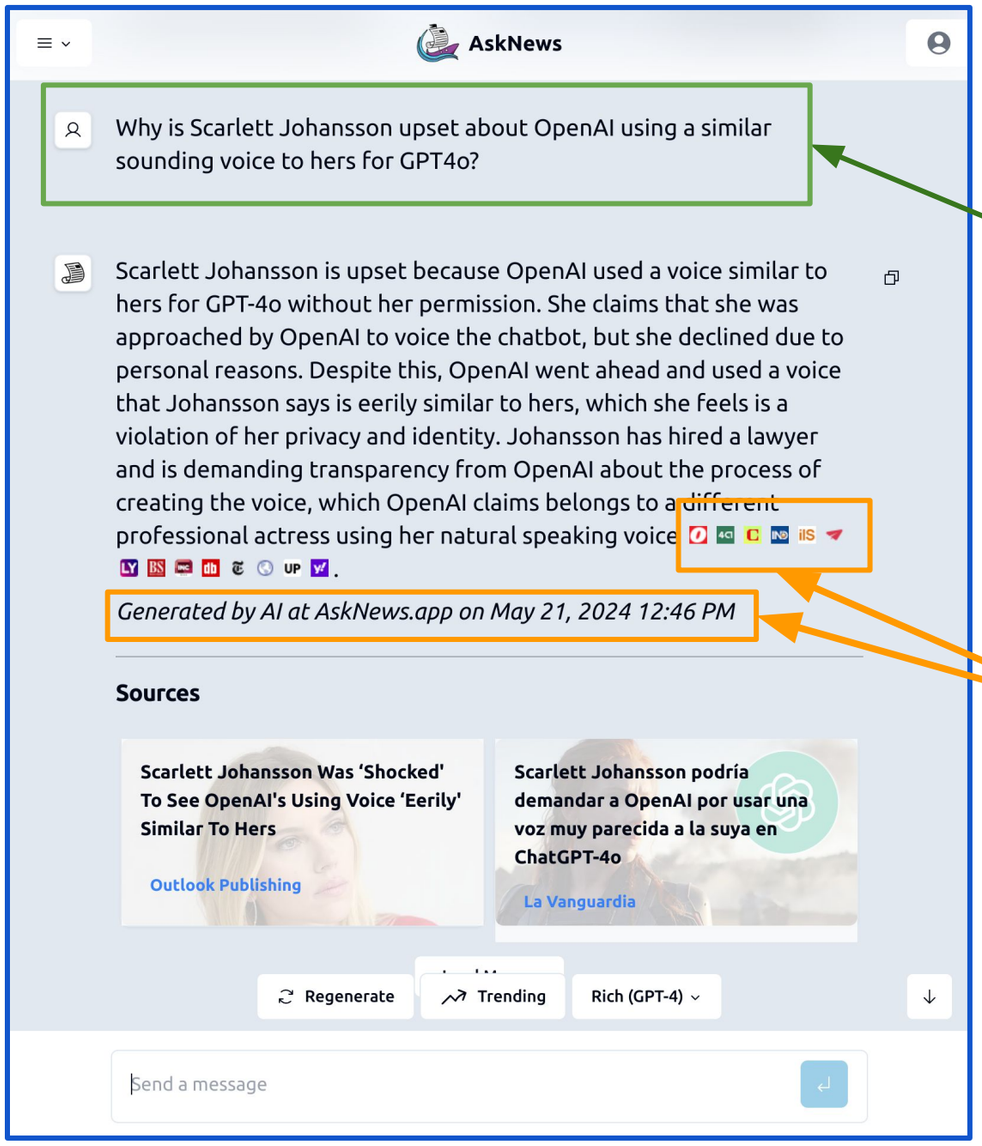
Deep → Exploration → Deepest



A standard news question

Enabling exploration

Deep → Exploration → Deepest



A standard news question

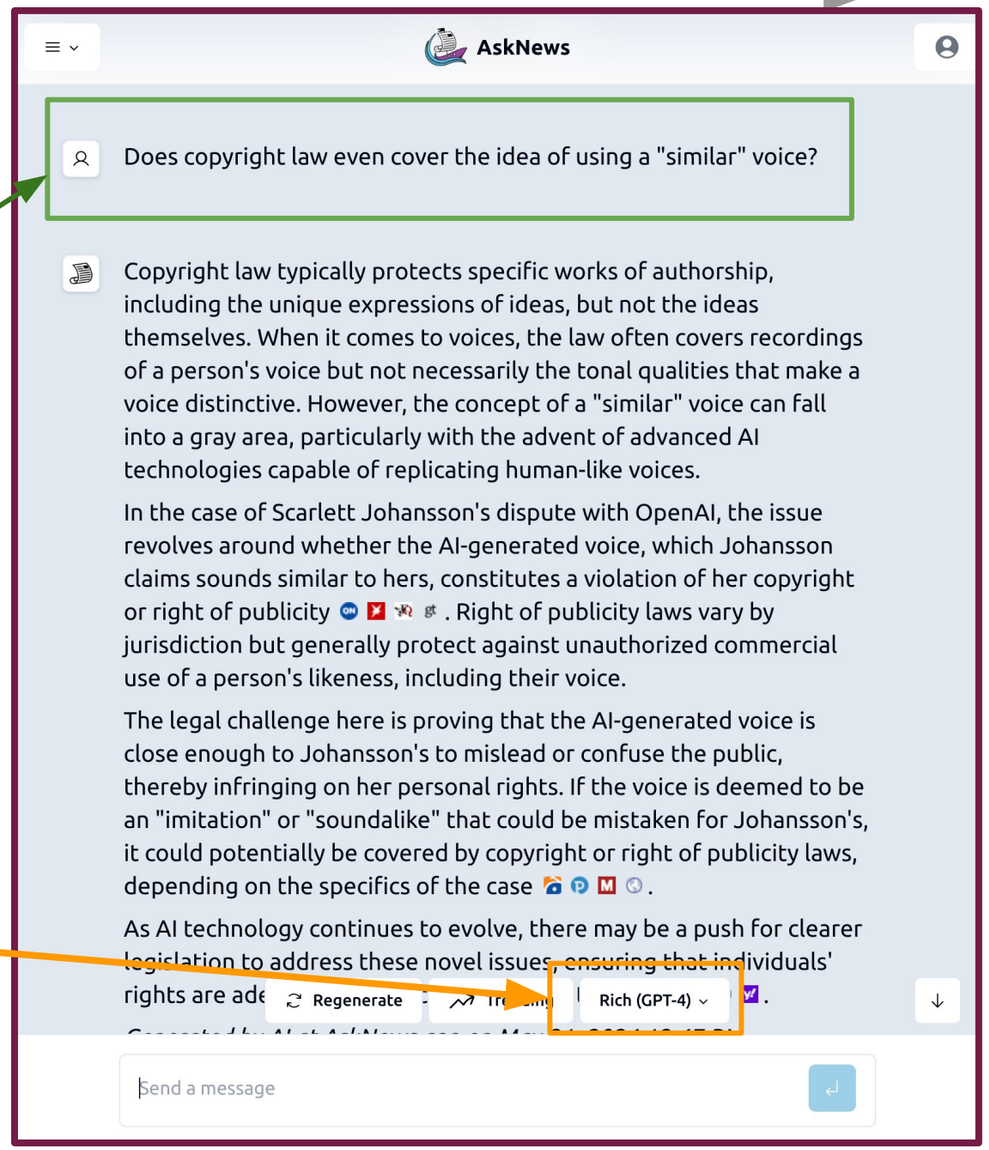
Citing statements with sources,
Labeling AI generated information
EU AI Act

Enabling exploration

Deep → Exploration → Deepest

A follow-up that is likely covered in deeper parts of the news summaries

Labeling AI generated info, EU AI Act



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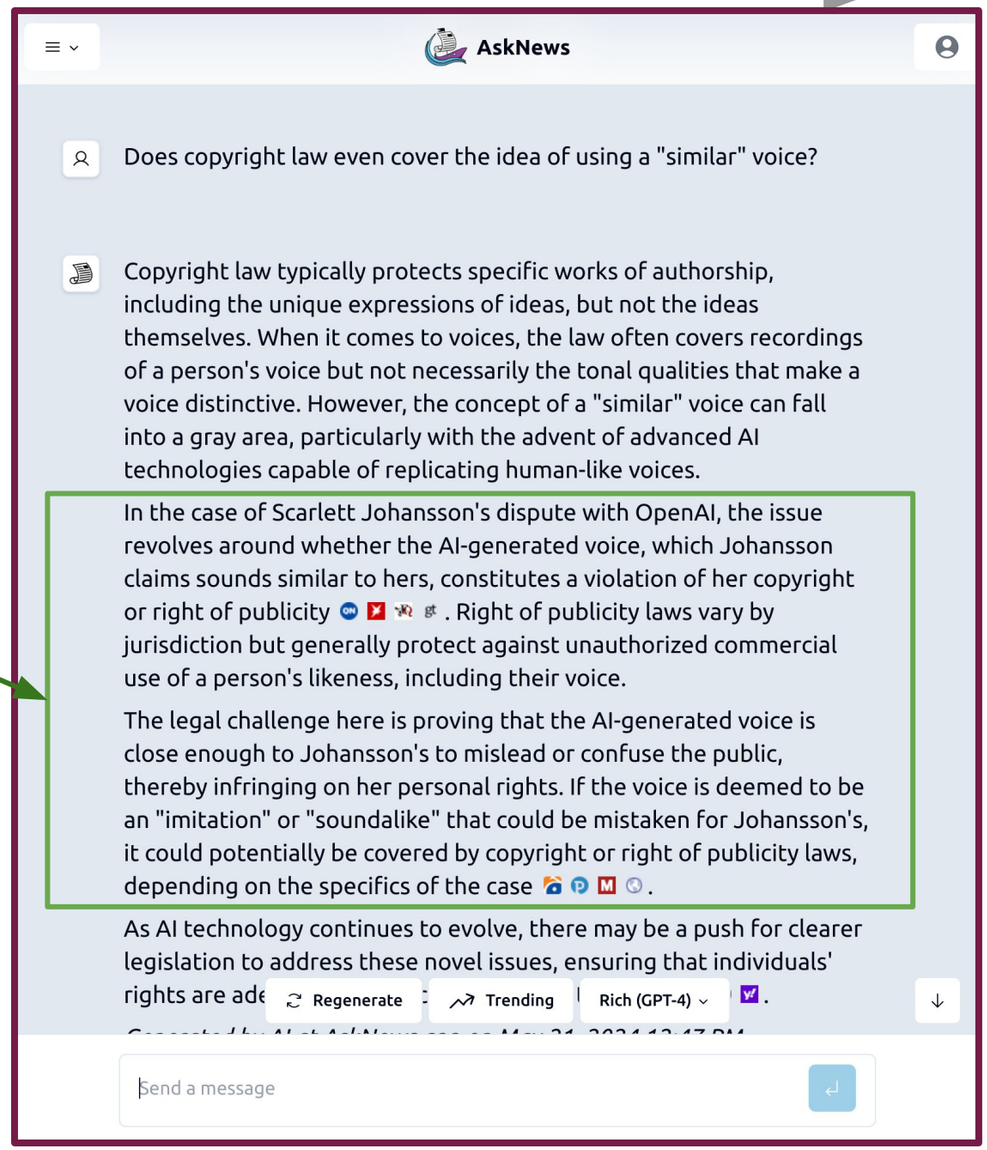
Enabling exploration

Deep Exploration Deepest

Deeper insights garnered from legal analysts



Tracking narratives in our parameter space

Documenting algorithmic practices
EU AI Act

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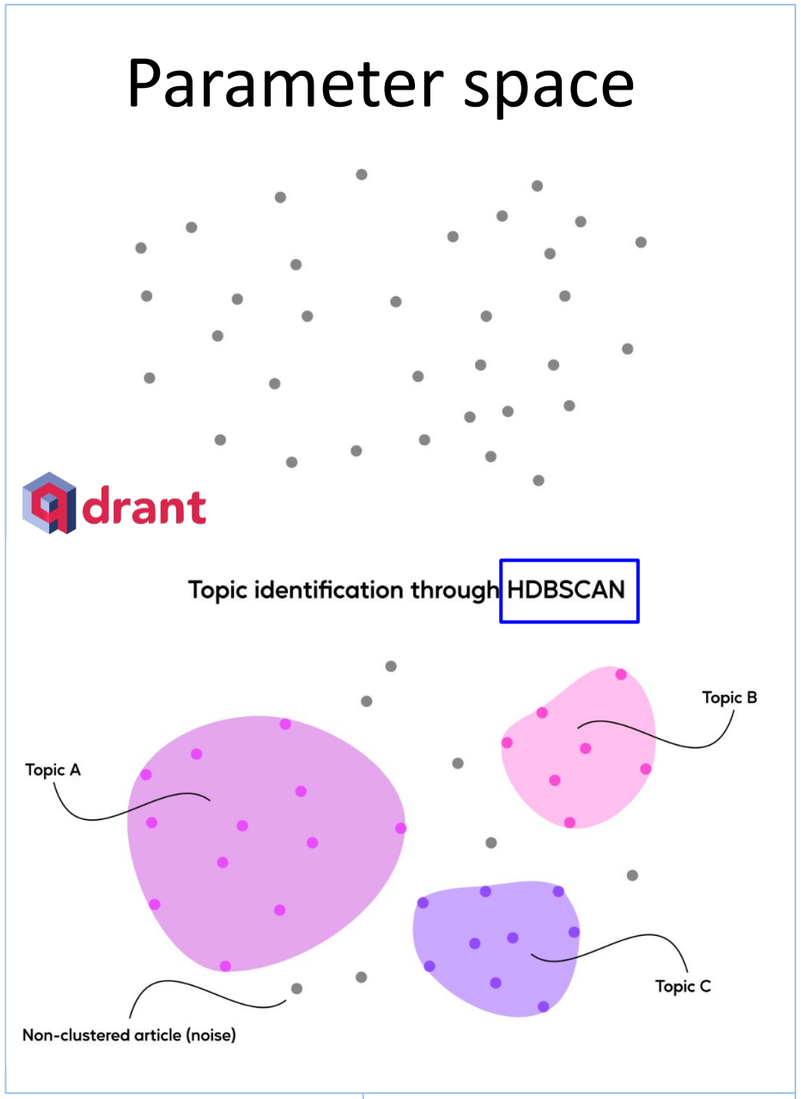
Finding related news reports



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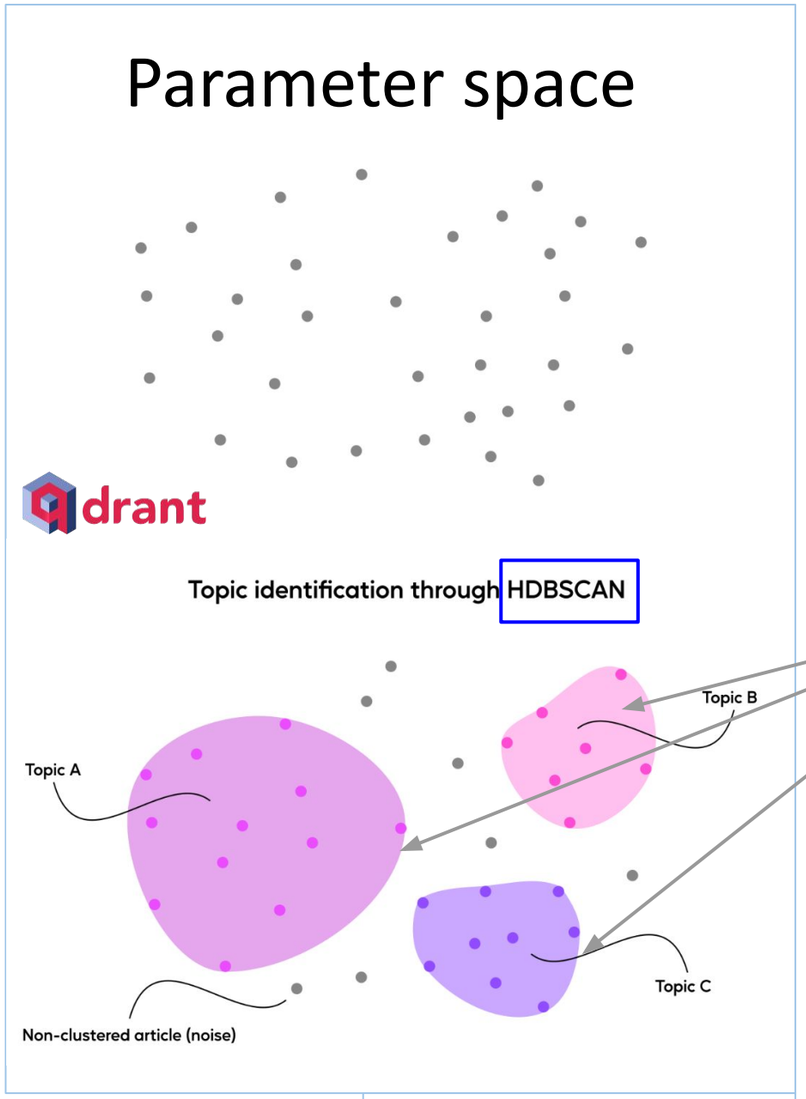
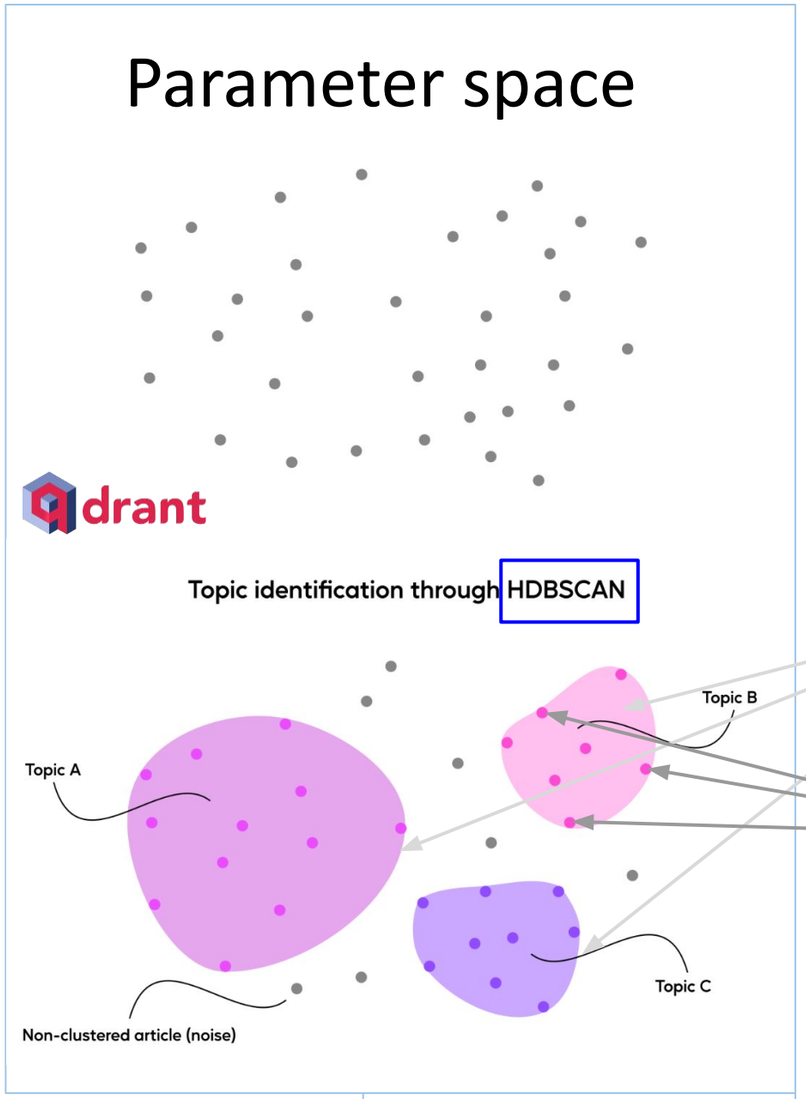
Finding related news reports



- Ensuring high accuracy, scalability, and filter-ability with the Qdrant vector database
  https://qdrant.tech

Clusters of semantic similarity

Finding related news reports



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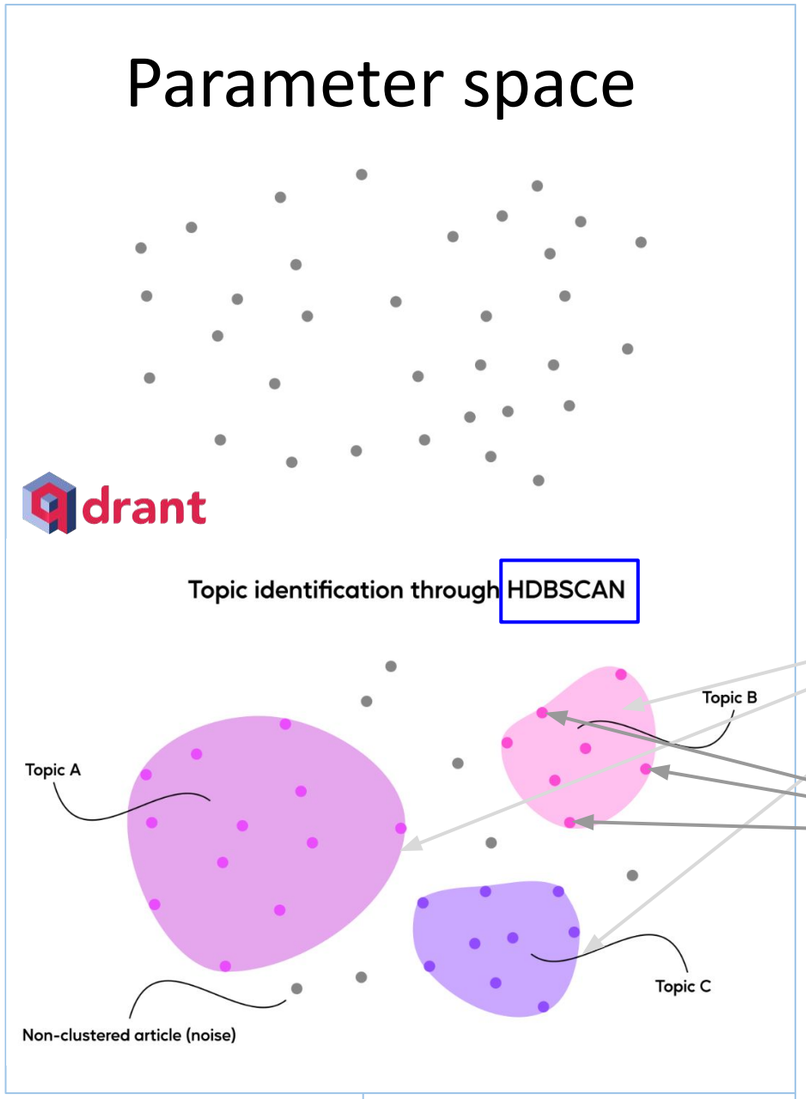
https://qdrant.tech

Clusters of semantic similarity

Multiple countries
Multiple languages
Multiple sources

Finding related news reports



- Ensuring high accuracy, scalability, and filter-ability with the Qdrant vector database
https://qdrant.tech

Clusters of semantic similarity

Multiple countries
Multiple languages
Multiple sources
Competing perspectives

Identifying the series of events

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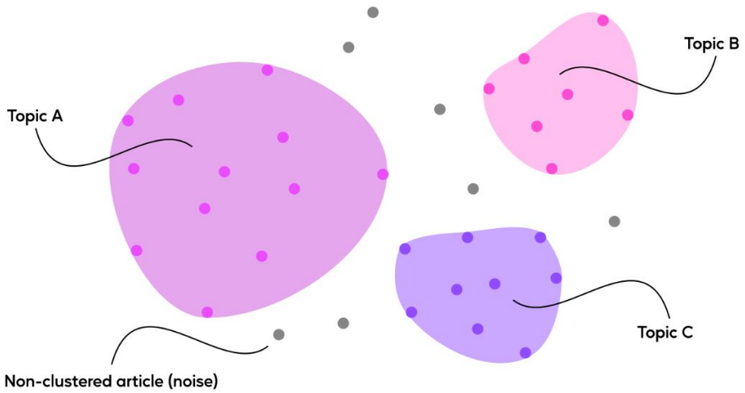
Parameter space

qdrant

Topic identification through HDBSCAN



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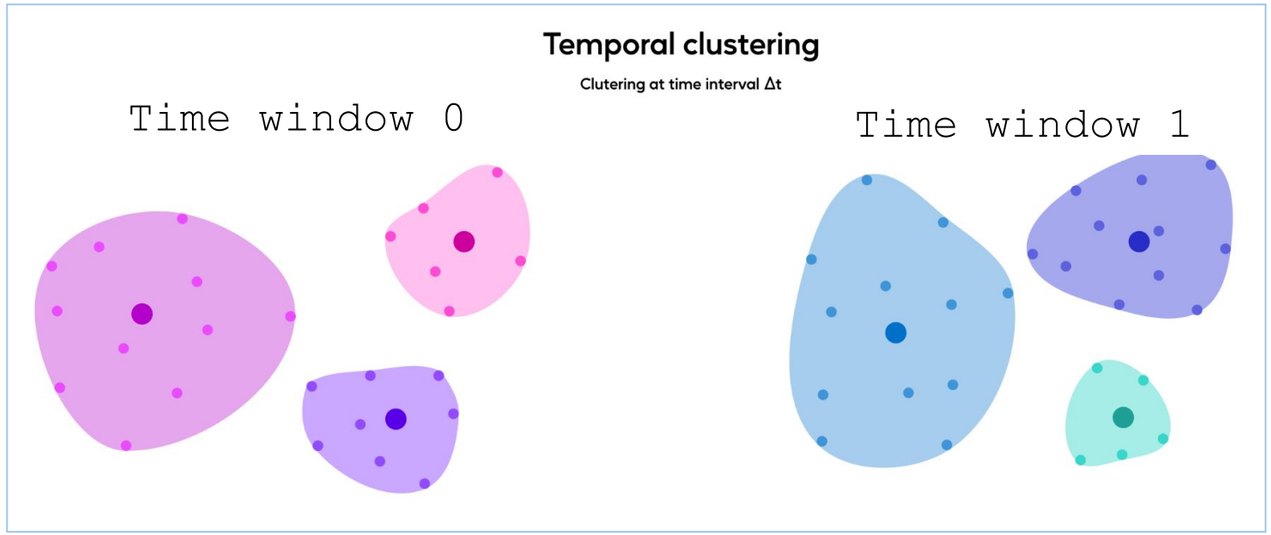
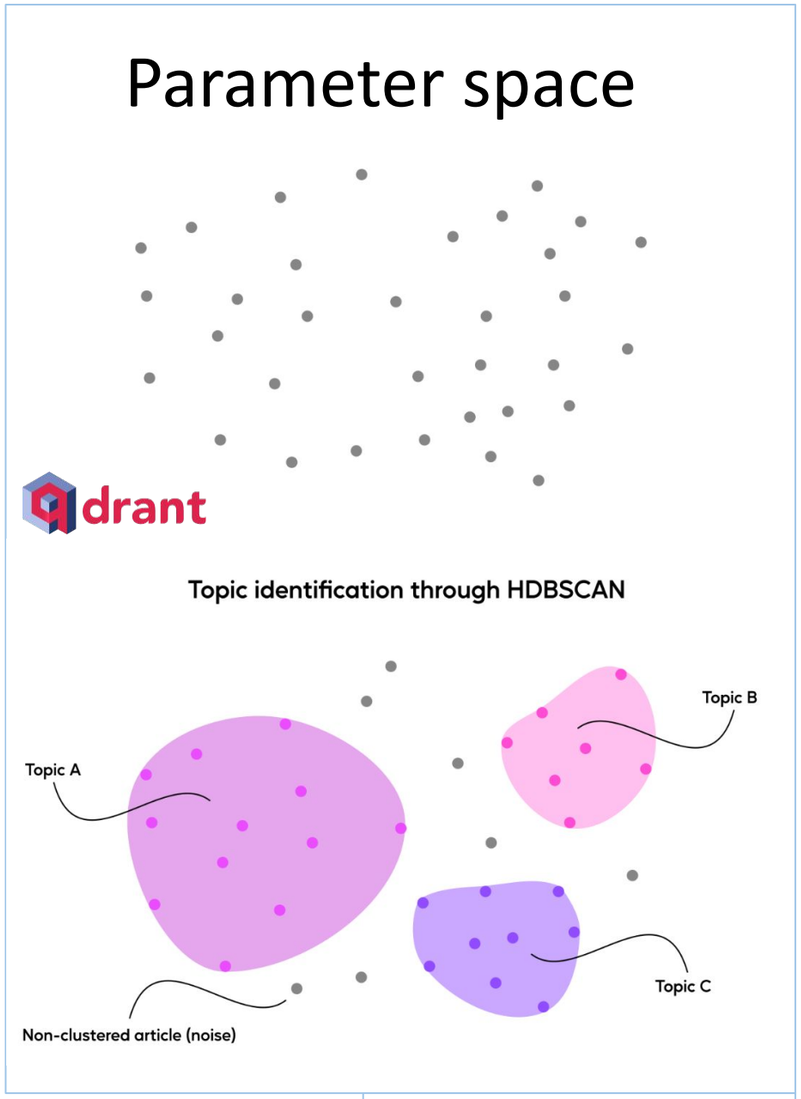


Identifying the series of events



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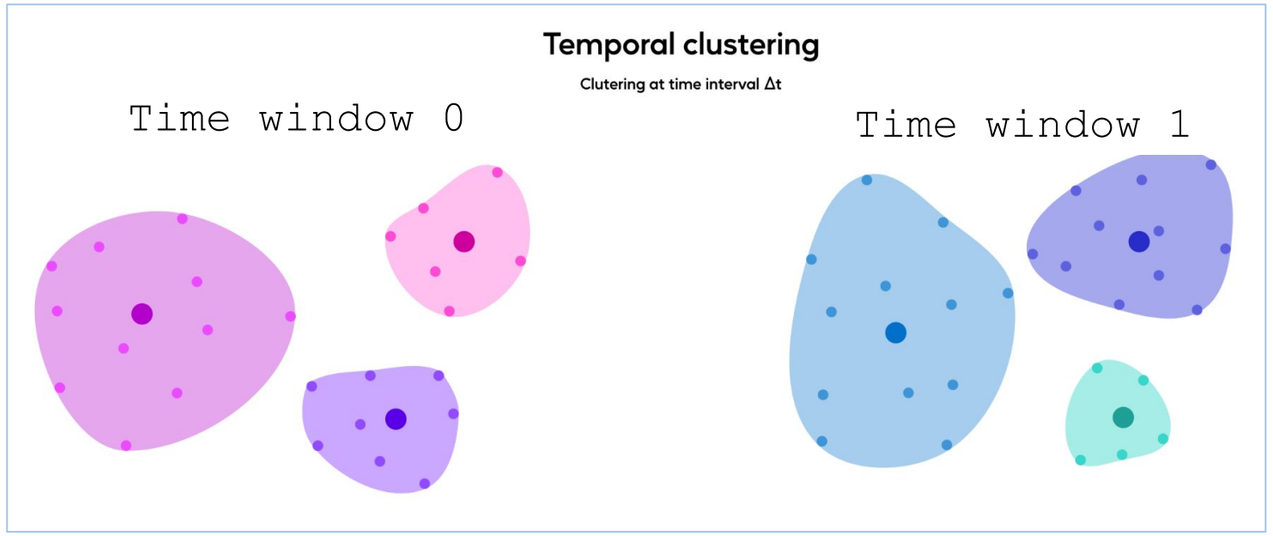
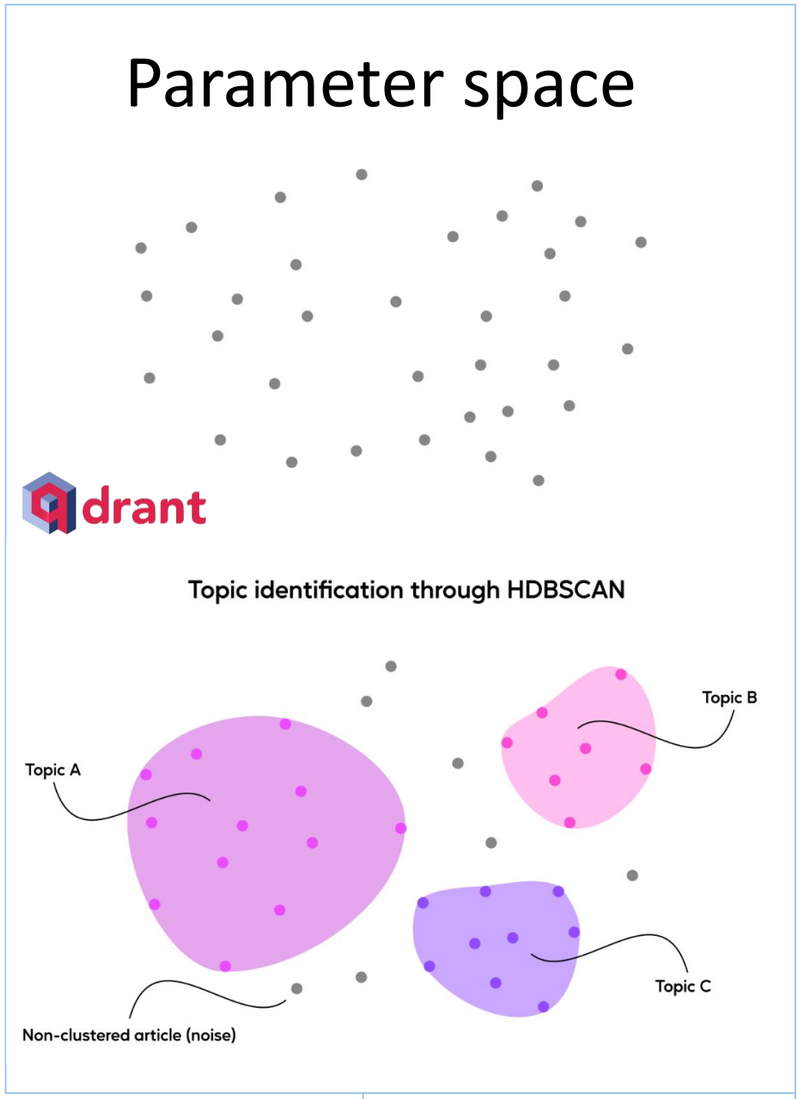


Cluster connection methods

- Adaptively (re)train one binary classifier per cluster

Identifying the series of events



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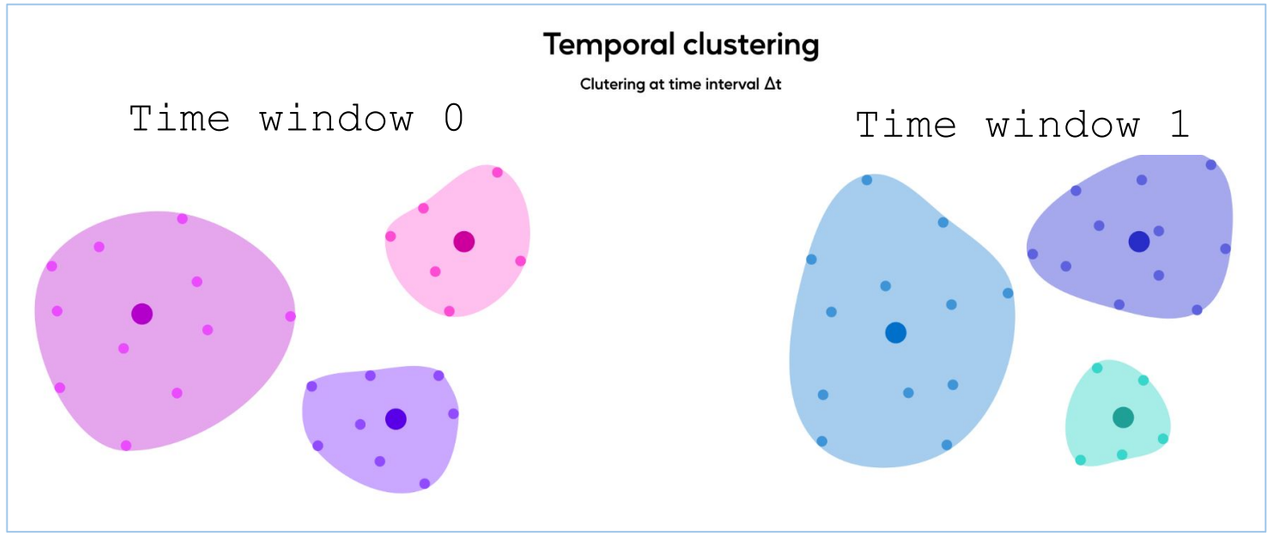
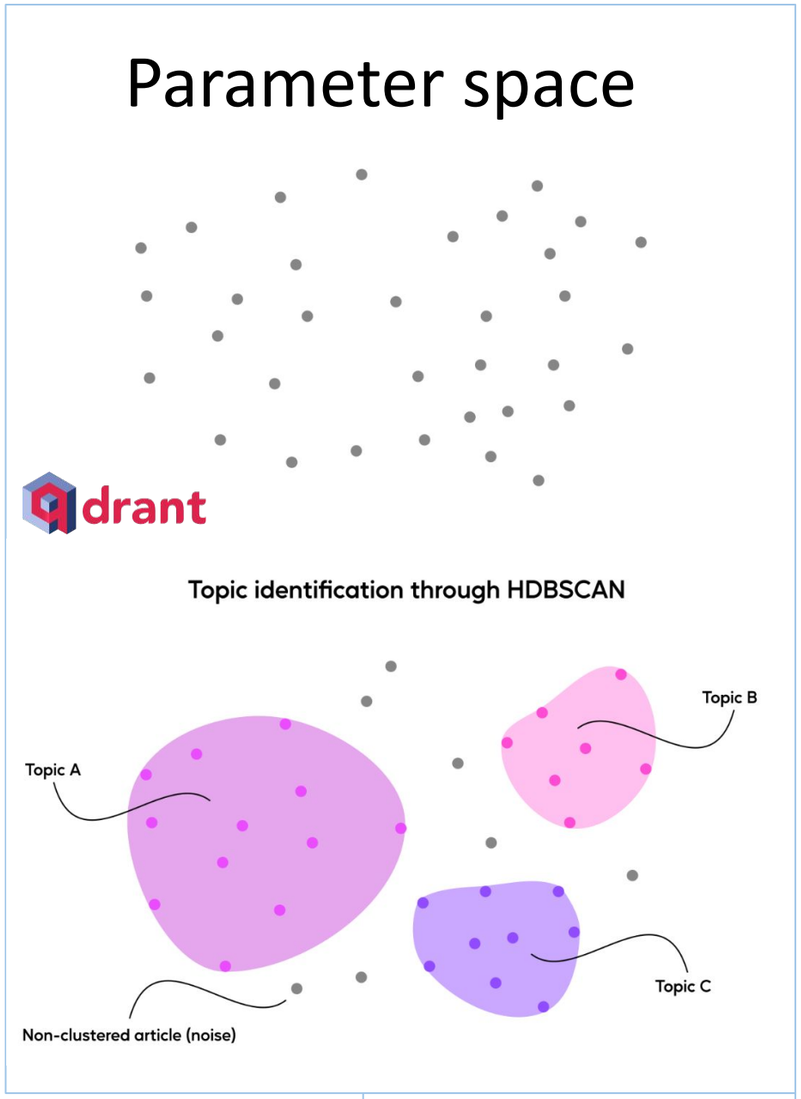


Cluster connection methods

- Adaptively (re)train one binary classifier per cluster
- Track medoid/centroid drift with hyper spheres

Identifying the series of events



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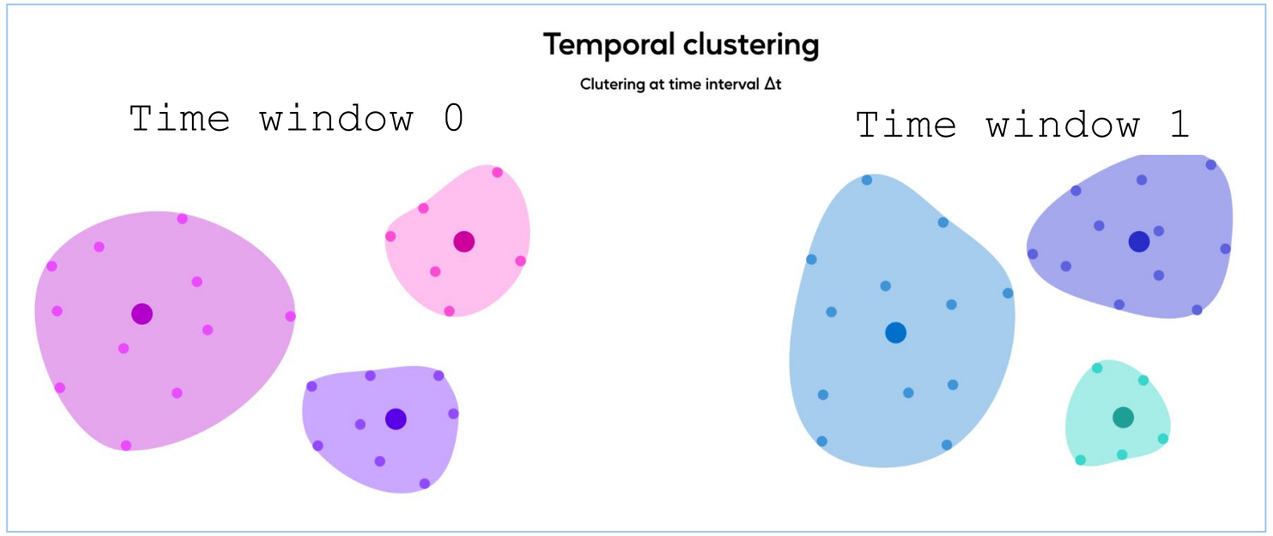


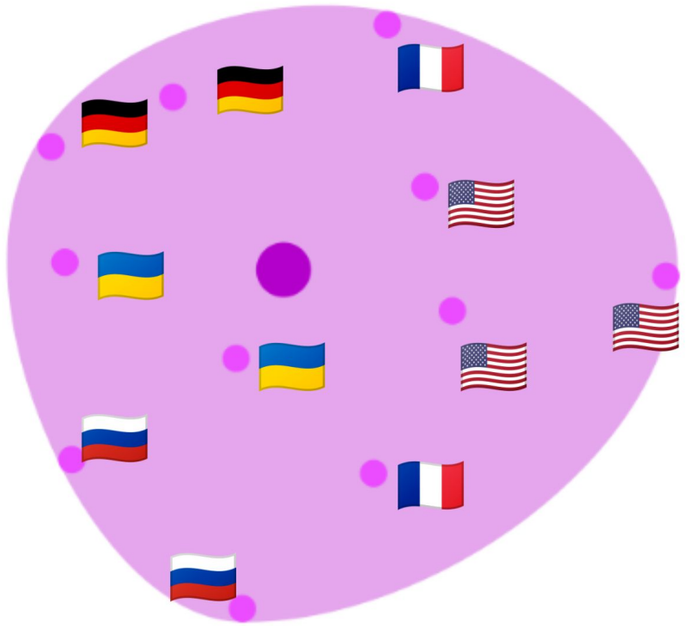
Cluster connection methods

- Adaptively (re)train one binary classifier per cluster
- Track medoid/centroid drift with hyper spheres
- Use overlap clustering techniques

Enforcing diversity

- Document formatting
- Citation control
- Journalistic guidelines

Topic A



Reports

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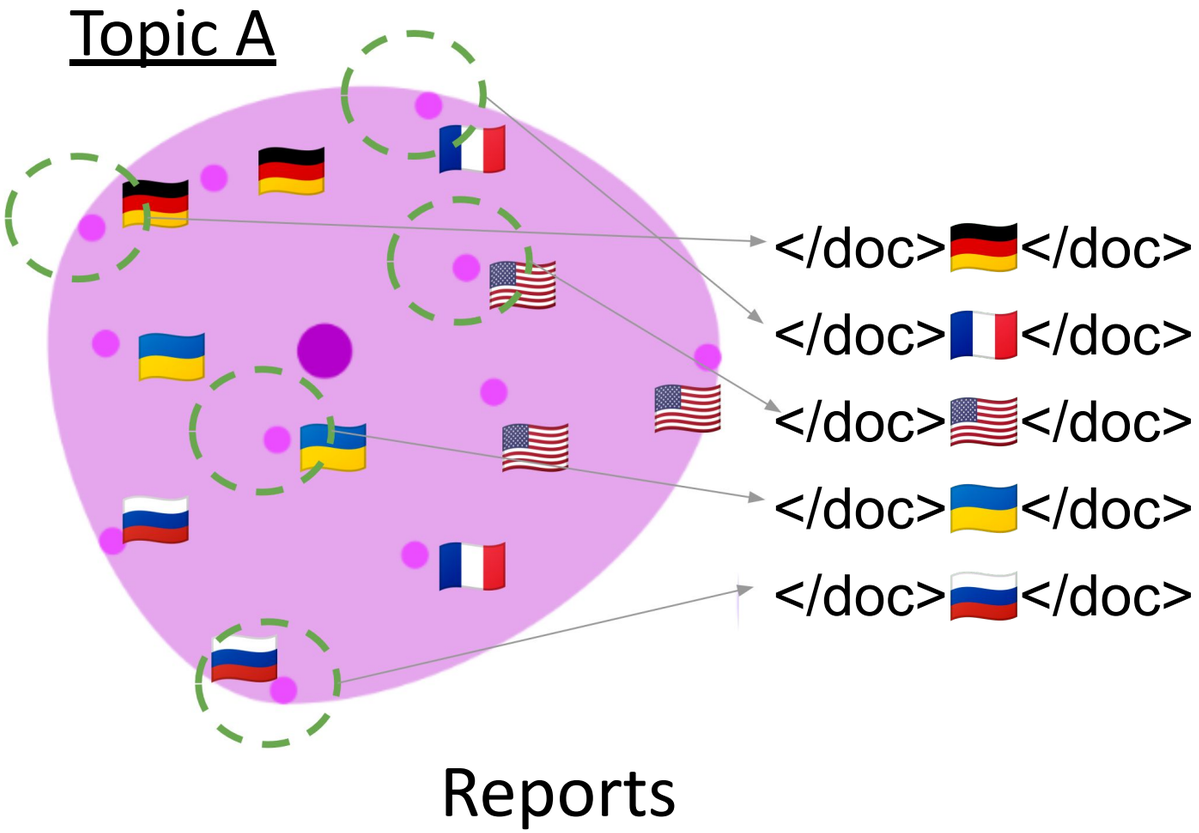
Enforcing diversity

- Document formatting
- Citation control
- Journalistic guidelines



Enforcing diversity

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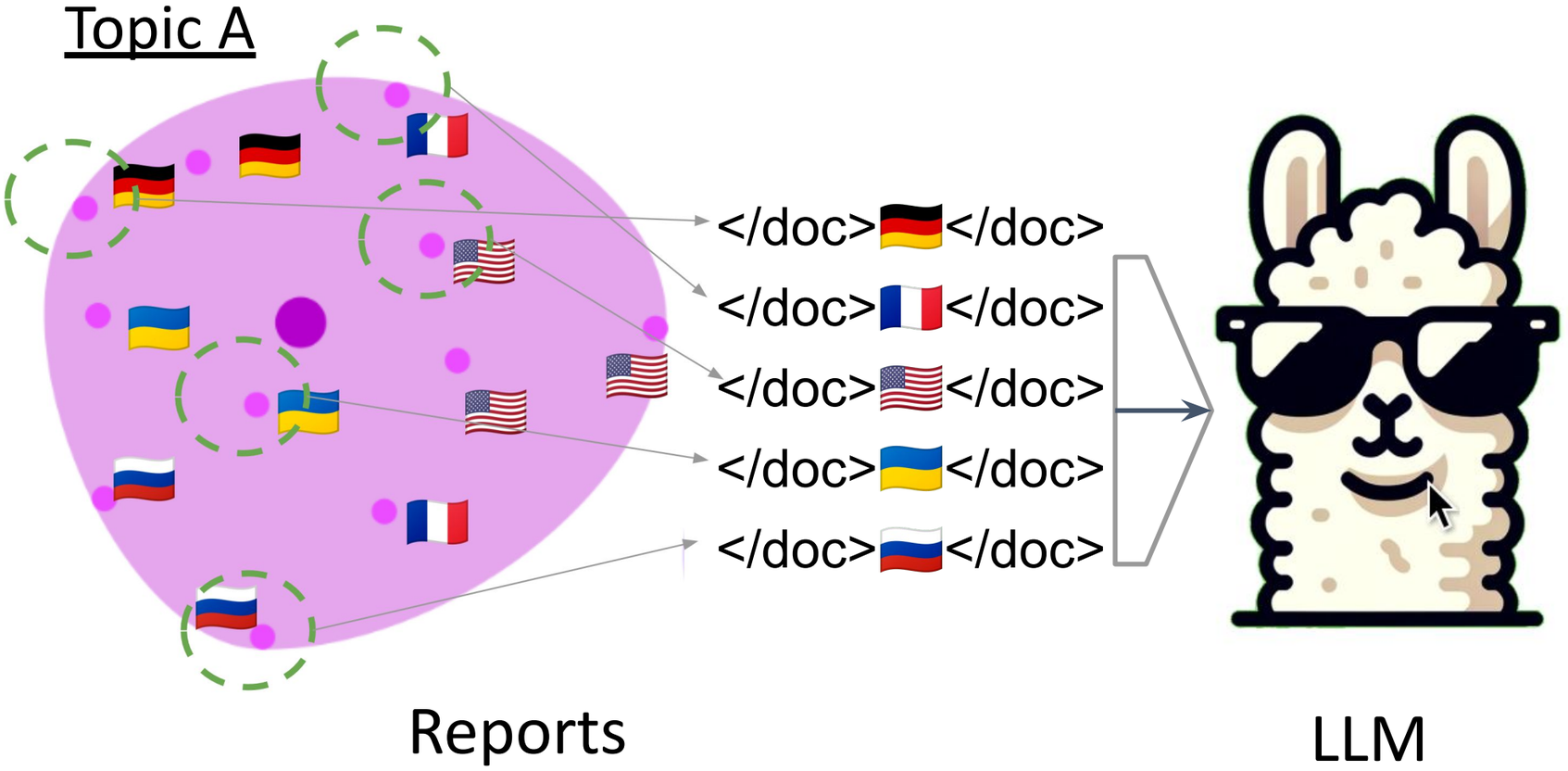

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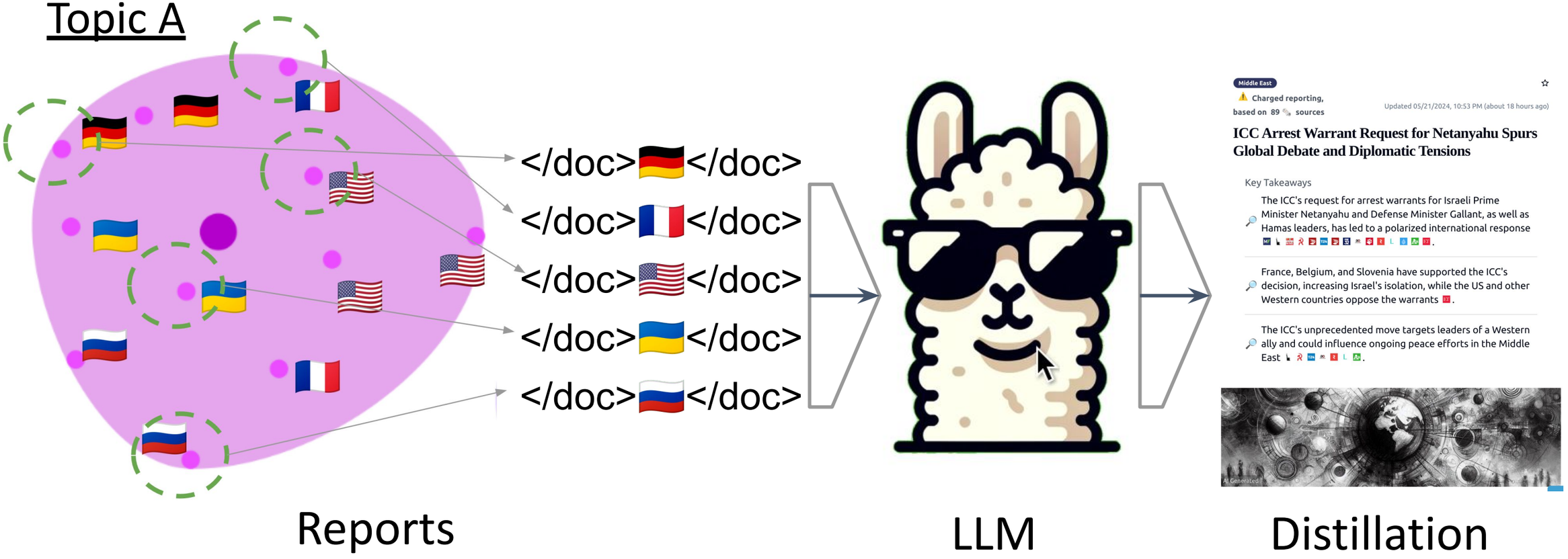

Leveraging AskNews for context

Emergent Methods

Outsource your news context to AskNews

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```python
from asknews import AskNewsSDK

ask = AskNewsSDK()

query = "The effect of President Xi's visit to France on the Russo-Ukraine conflict"

news_context = ask.news.search_news(query).as_string

# Now run your Chat completion as usual:
system = {
    "role": "system",
    "content": f"A chat between a curious user and an artificial intelligence Assistant. The Assistant has access to the following news articles that may be useful for answering the User's questions: {news_articles}"
}
response = oai.chat.completions.create(
    model="gpt-3.5-turbo",
    messages=[system, user]
)

print(response.choices[0].message.content)
```

Blog article on Medium

Outsource your news context to AskNews

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Blog article on Medium

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Key technologies

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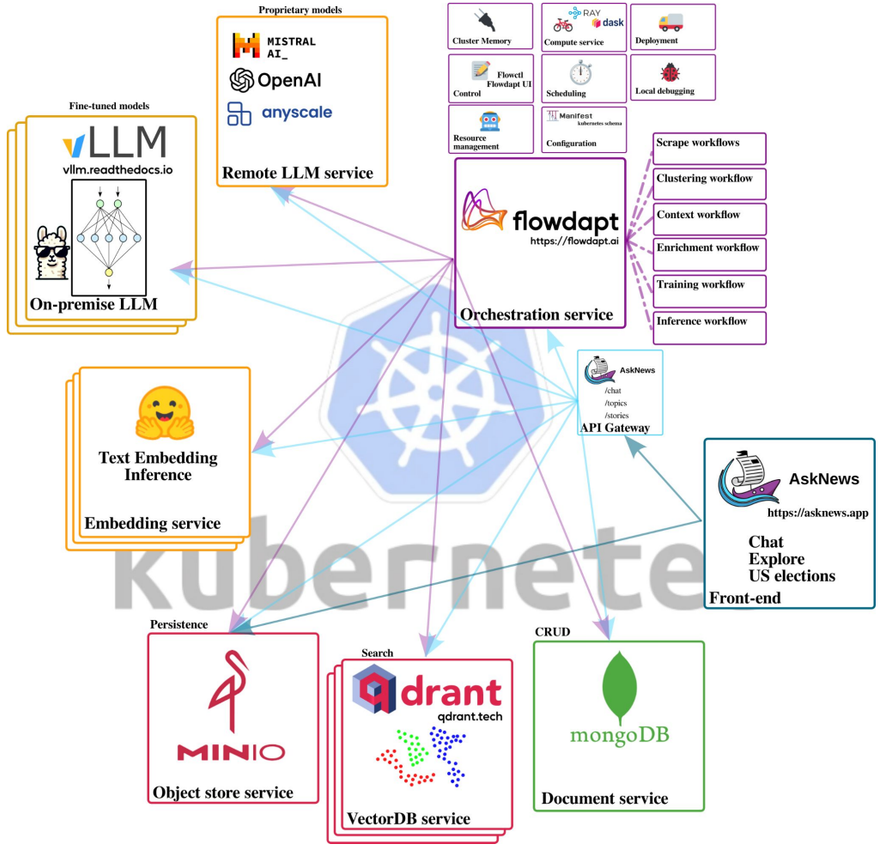
Key technologies

- High-coverage, high-reliability, enterprise news structuring
  - 50k+ news sources
  - 1 million articles per day
  - free academic use

</newscatcher>
https://www.newscatcherapi.com/



Key technologies

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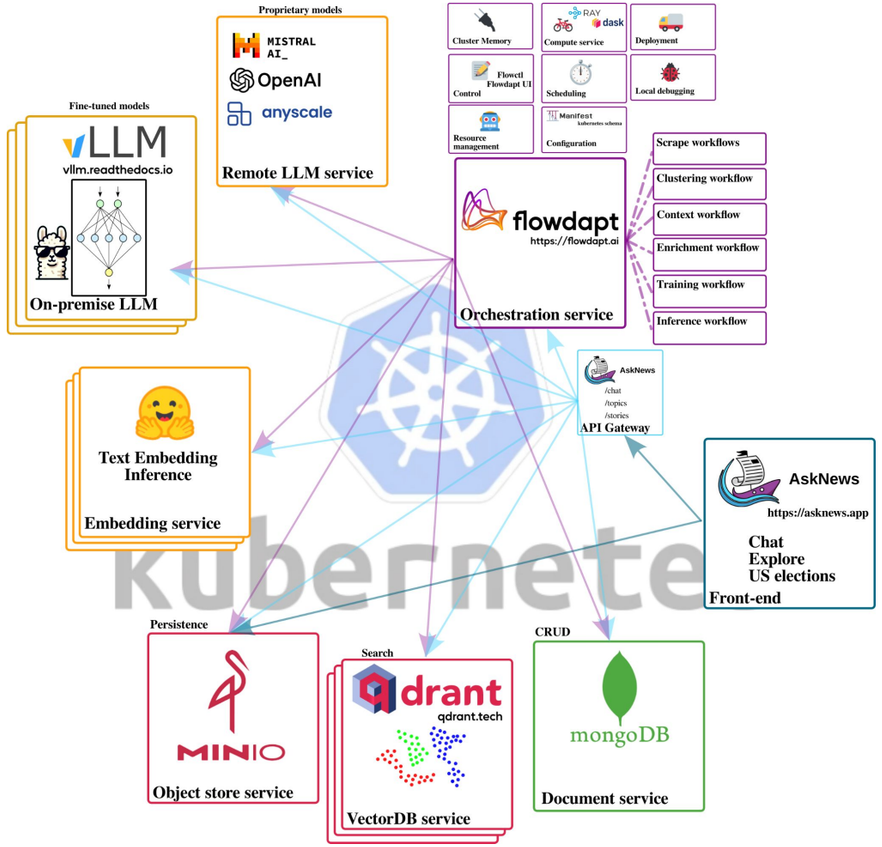
https://www.newscatcherapi.com/

- Highly parallelizable, highly scalable, industry grade
  - quantization = speed and cost savings
  - dense/sparse vectors = high flexibility
  - low-latency = non-optional in AI-first

qdrant
https://qdrant.tech/



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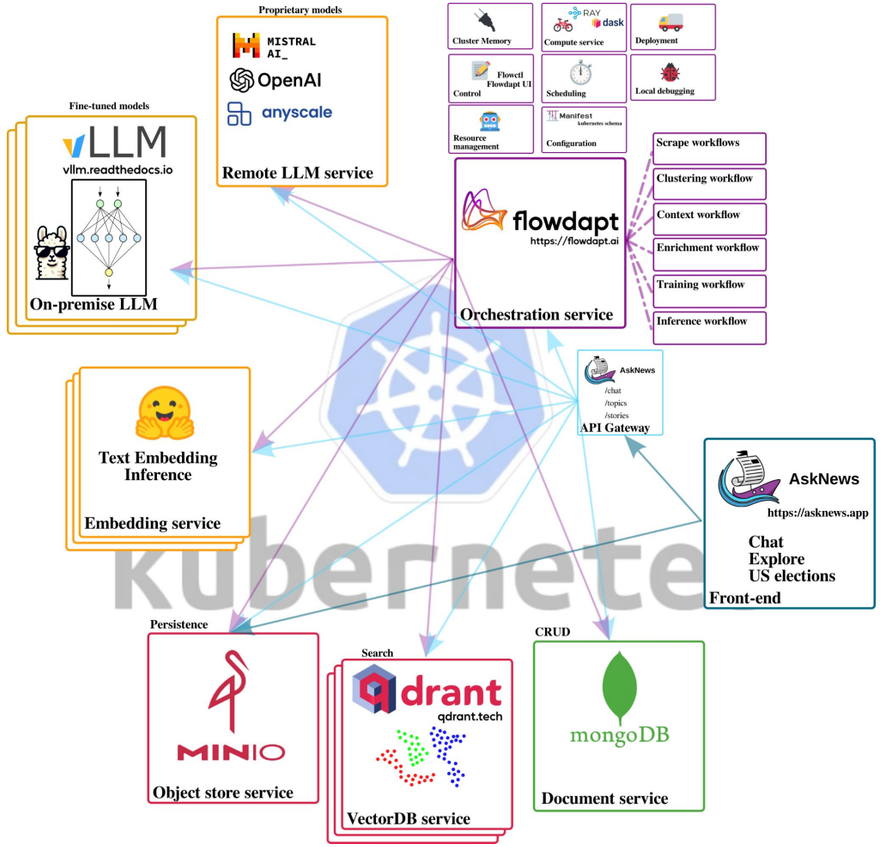
qdrant
https://qdrant.tech/

- Highly configurable, cluster orchestration
  - scheduling adaptive AI/ML workflows
  - orchestrating services

flowdapt
https://flowdapt.ai/



Outsource your news context to AskNews

Emergent Methods
www.emergentmethods.ai

- 🌍 Global coverage - 300k articles per day
- 🏎️ Low-latency (100 ms) ready for tight spots in your LLM stack
- 🔗 LangChain Tool and Retriever available
- 🪪 SOTA custom entity extractor (GLiNER-News)
- 🧺 Stories + clustering, Chat, Finance, Citation control
- 📈 Hot topic following/tracking/filtering
- 📊 Usage tracked - pay for what you use
- 👥 Reddit perspective - include social context
- 🆓 Free news api https://my.asknews.app/plans

AskNews

https://docs.asknews.app

Thanks for your attention!

AskNews

Demand transparent news.
https://asknews.app

Robert Caulk, PhD & Elin Törnquist, PhD

CEO — *Director of Transparency*

rob at asknews.app — elin at asknews.app

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