

Strategic Decoupling:

AI-based analysis on Language-Action Nexus



Annual Conference
Best Conference
Paper Finalist



National AI
Research Grant



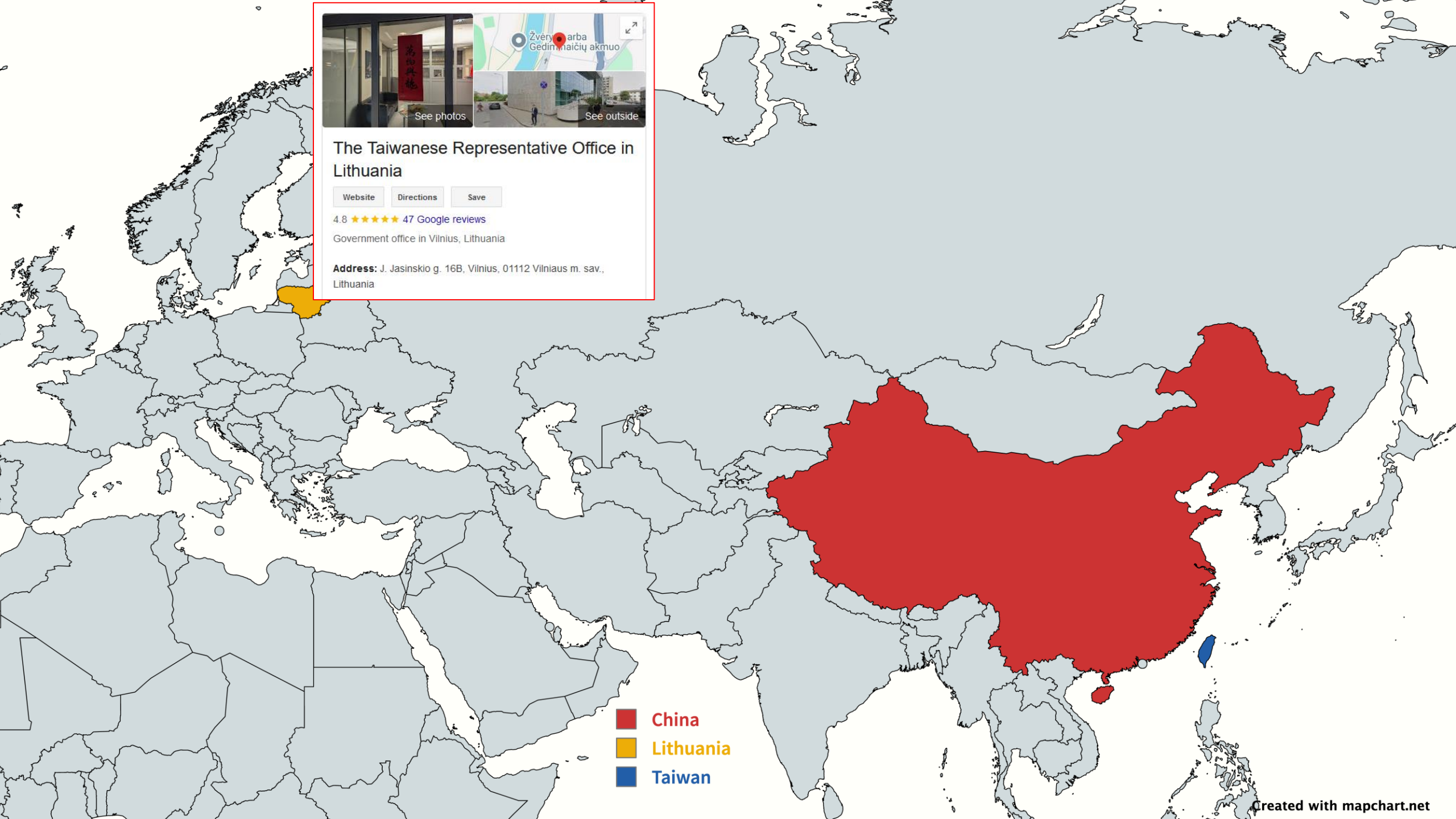
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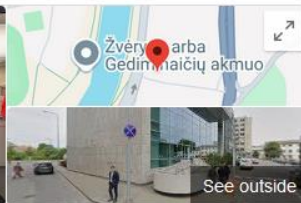
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University of Texas, Dallas

AI and Big Data Masterclass In International Management

AoM 2025



See photos



See outside

The Taiwanese Representative Office in Lithuania

Website

Directions

Save

4.8 ★★★★★ 47 Google reviews

Government office in Vilnius, Lithuania

Address: J. Jasinskio g. 16B, Vilnius, 01112 Vilniaus m. sav., Lithuania

China

Lithuania

Taiwan

Statements & News

Hong Kong solidarity rally in Vilnius met with Chinese protesters					20200331					20210608				
Hong	1-Lithuania's electricity price si	684-Roundup GL	741-Ukraine, Lithuania declare to develop strategic partnership							20210629				
Hong	2-Rheinmetal	28-Xinhua w	742-Spotlight New Europear	'Eastern Europe is learning to play its own	China has not informed Lithuania of cut in transport ties					20210721				
How C	3-Experts call	29-2nd LD W	743-Majority of Lithuanians	'European nuclear deterrent wouldn't wo	China imposes sanctions after a Lithuanian deputy minist					20210810				
How t	4-Danish corr	30-1st LD Wi	744-Xinhua world news sum	'Everyone for themselves' is bad alternati	China is subverting media in Eastern Europe, Baltics - LRT					20210816				
How F	5-Lithuania lit	31-Urgent Li	745-Ireland has 3rd highest	'First ever' Europe-bound postal train fro	China is undermining Western democratic values and Litt					20210818				
How t	6-Estonian PM	32-Lithuania	746-Albanian capital wins tit	'Go after Putin's money,' Navalny's ally sa	China never was important trade partner for Lithuania – r					20210819				
How v	7-Long truck	33-Lithuania	747-Lithuania signs agreeme	'Grey area' between diplomacy and intim	China newspaper mocks Baltic states for squalor and 'ridi					20210823(2)				
Huaw	8-ECB preside	34-Lithuania	748-320 kg narcotics interce	'Honey crisis' presses Lithuanian beekeep	China now overshadows Russia – Estonian president - LRT					20210823				
Huge	9-Baltic State:	35-Half of pr	691-Spotlight W	749-Lithuanian president str	China pressures European Parliament as Lithuania, EU bui					20210825				
Hyste	10-Lithuanian	36-Finnish ai	692-Spotlight Eu	'Kaliningrad is no longer our problem, bu	China pressures Germany's car parts giant Continental to					20210902(2)				
Icelan	11-China con	37-Norwegia	693-Lithuanian c	'Liberation of Crimea will be complete by	China pressuring Lithuania. Vilnius needs to respond – op					20210902				
In bre	12-Spain, Ger	38-Foreign n	694-Ukraine's lar	'Lithuania and its policymaking are more	China recalls ambassador from Lithuania - LRT.json					20210903(2)				
Indian	13-Xinhua wc	39-Ukrainian	695-Lithuania's 4	'Lithuania is in an interesting position' – i	China resumes visa issuance to Lithuanian citizens - LRT.j					20210903(3)				
Iranian	14-Lithuanian	40-Lithuania	696-of women ir	'No substitute for China'. Lithuanian firm:	China sanctions vs Taiwan investments – Lithuania's centr					20210903				
Japan	15-Finnish PM	41-Roundup	697-Lithuania's f	'Our border is also with Russia' – interview	China says it respects sovereignty of post-Soviet states fc					20210908				
Kalini	16-Lithuania i	42-Lithuania	698-Lithuanian r	'Putin does not want to invade the Baltic:	China slams Lithuania's move to build ties with 'Taiwan se					20210912				
Kauna	17-Undersea	43-Voter turr	699-2nd LD WH	'Russia is constantly planning for new off	China softens stance toward Lithuanian companies, says I					20210914				
Klaipė	18-Lithuania :	44-Parliamer	700-Lithuania co	'Russia is testing NATO red lines' – Lithua	China suspends Lithuanian beef, milk, and beer imports i					20210915(2)				
Klaipė	19-Former PM	45-Second-t	701-Lithuania de	'Society is making miracles happen'. Civic	China suspends visa issuance to Lithuanian citizens - LRT.					20210915				
Labou	20-Lithuania's	46-One killer	702-Lithuania re	'Sweden is a peace-loving country, but w	China threatens multinationals to sever ties with Lithuan					20210929				
Large:	21-Lithuania's	47-Lithuania	703-CEE countri	'The Russians don't respect us' – interview	China threatens to sweep Lithuania into 'garbage bin of t					20211010				
Latvia	22-Lithuania's	48-UN Gene	704-Spotlight GI	'There are Russia sympathisers in our mil	China urges EU to make Lithuania correct its 'mistakes' -					20211011				
Latvia	23-Lithuanian	49-Early voti	705-Lithuania pr	'Ukraine has already won' in war with Rus	China urges Lithuania to 'abandon Cold War mentality' -					20211012				
Latvia	24-Gas consu	50-Electricity	706-Latvian hote	'Using nuclear would be the end of Russi	China wants Russia to continue war in Ukraine, says Lithu					20211021				
Lawye	25-Eurozone'	51-Lithuania	707-Lithuania m	'We have been sacrificed' – laser sector r	China warns Estonia to scrap plans for Taiwanese office -					20211026				
	26-3rd LD Wrtethru Social Der	52-Nearly 2,	708-Some NATO	'We're in Cold War Two' – interview with	China warns Lithuania after Vilnius agrees to host Taiwan'					20211028				
	27-Lithuanian FM quits as chai	53-Nine Latv	709-Former man	'We've seen efforts of playing us against	China welcomes Lithuanian president's criticism of Taiwar					20211110				
		54-EU court	710-January in L	766-Granfondo Yunnan Cycling first stage results	China's assistance 'brainwashing' Lithuanian people, con									
			711-January in L	767-Rhythm Dance results at ISU Grand Prix Internationaux de France										

What Are We Seeking?

1. What is the sentiment of China towards Lithuania?
2. What is the sentiment of Lithuania towards China?
3. What are topics discussed?
4. How do they change overtime?

For each statement or News:

- Review context

- Identify subjects

- Identify sentiment and topic towards subjects

- Consistency

Why aspect-based sentiment analysis with LLMs?

e.g.,

Mike is sad, John is sad, you are happy because Mike is sad.

Three negative words (sad, sad, sad), one positive word (happy)
By count words and its ratio, overall is negative sentiment.

But.. What if I care about your emotion?

Why topic modelling with LLMs?

- News A: "US imposes new sanctions on Chinese tech firms over national security concerns, restricting chip exports."
(Geopolitical Tech Conflict, US → China)
- News B: "EU regulators approve sanctions against Russian oil imports, citing violations of international law."
(Economic sanction on energy, EU → Russia)

Context is the key...

Text-Embedding-3-large

via Application Programming Interface

Sampling

Prompt
tuning

Aspect-based
sentiment
analysis

Dynamic
topic
extraction

Validation

Aspect-based analysis

Sentiment &

Prompt-guided topic extraction

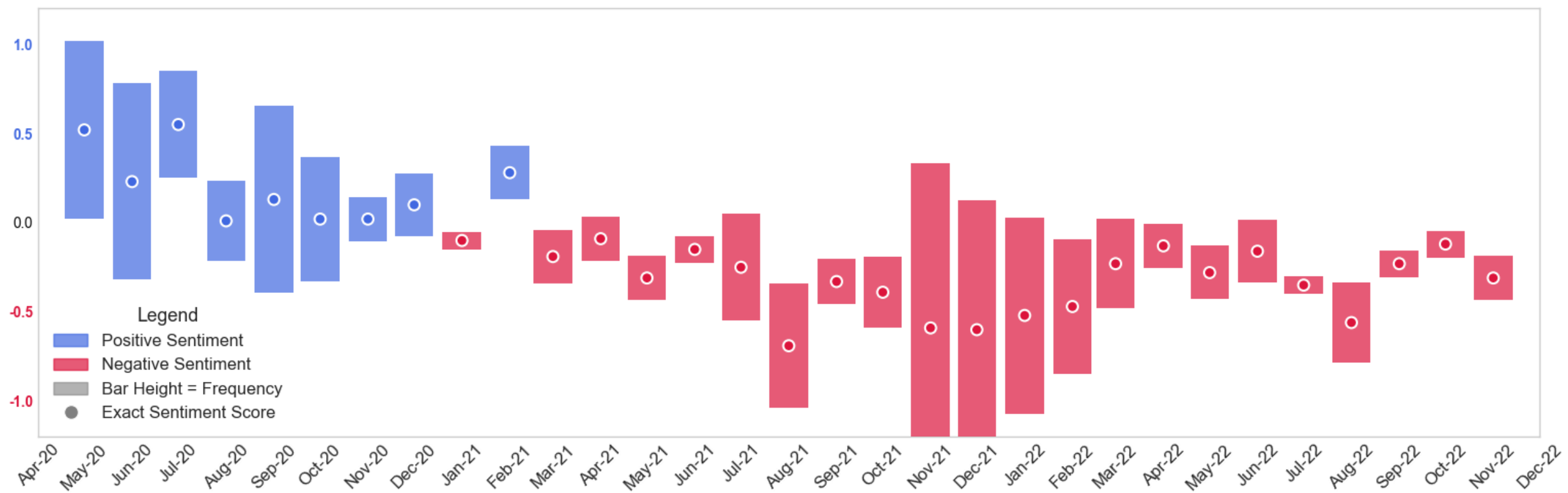
```
target subjects= ["Lithuania", "Taiwan",  
"US", "China"]
```

```
if target_subject:  
    analysis_target = f"specifically towards  
'{target_subject}'"  
else:  
    analysis_target = "for the overall text"
```

Your task is to determine if the following topic phrase is specifically about '{target_subject}' or if it's a more general concept.

Findings

China's Sentiment towards Lithuania



How to conduct “topic modelling” with LLMs?

- **News A:** GPT Summary -> Topics + Reasons + Quote
- **News B:** GPT Summary -> Topics + Reasons + Quote
- **News C:** GPT Summary -> Topics + Reasons + Quote
- **News D:** GPT Summary -> Topics + Reasons + Quote
-
- **News N:** GPT Summary -> Topics + Reasons + Quote

Vectorization: Text → Value

Chunks



Vectors

	Women	Men	Royal	Poor	...
Queen	1	0	1	0	... (1,0,1,0...)
King	0	1	1	0	... (0, 1,1,0...)

Topic Distance

- **Distance**(Embedding A, Embedding B) -> Similarity Score (A,B)
- **Distance**(Embedding B, Embedding C) -> Similarity Score (B,C)
- **Distance**(Embedding C, Embedding A) -> Similarity Score (C,A)



Validation:

Randomly pick to compare with human experts

Compare with LIWC, full file sentiment analysis

Further compare with Gemini models & Retrieval augmented generation

Alternative Method



Human coding

Bag of words

AI-based language analysis

Human coding



Veo

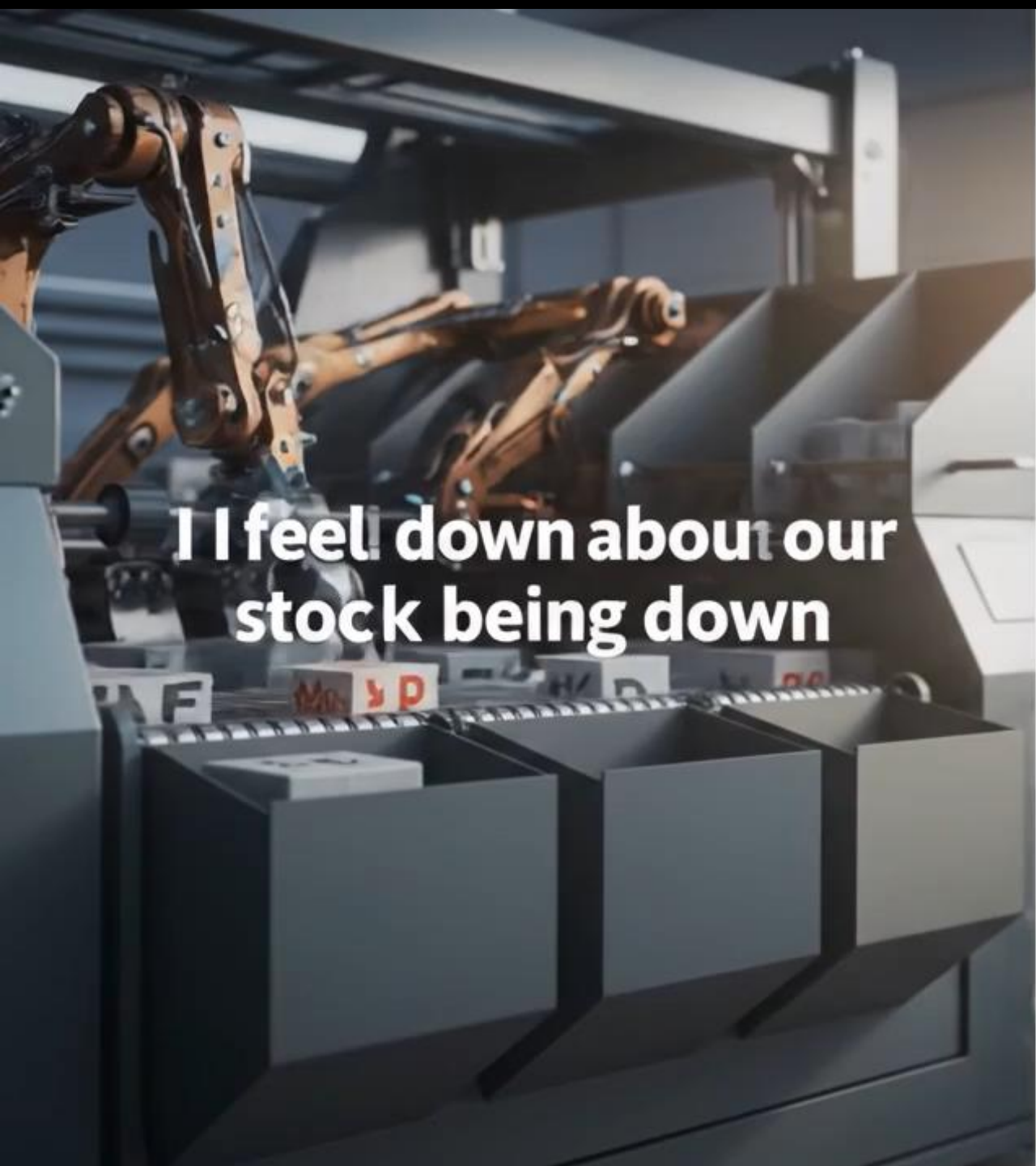


Veo



Bag-of-Words





**I feel down about our
stock being down**



Fit: Is AI the right tool for the job?

- Identify advantage
- Match capacity to task

Use: The standard is transparency

- Document & disclose

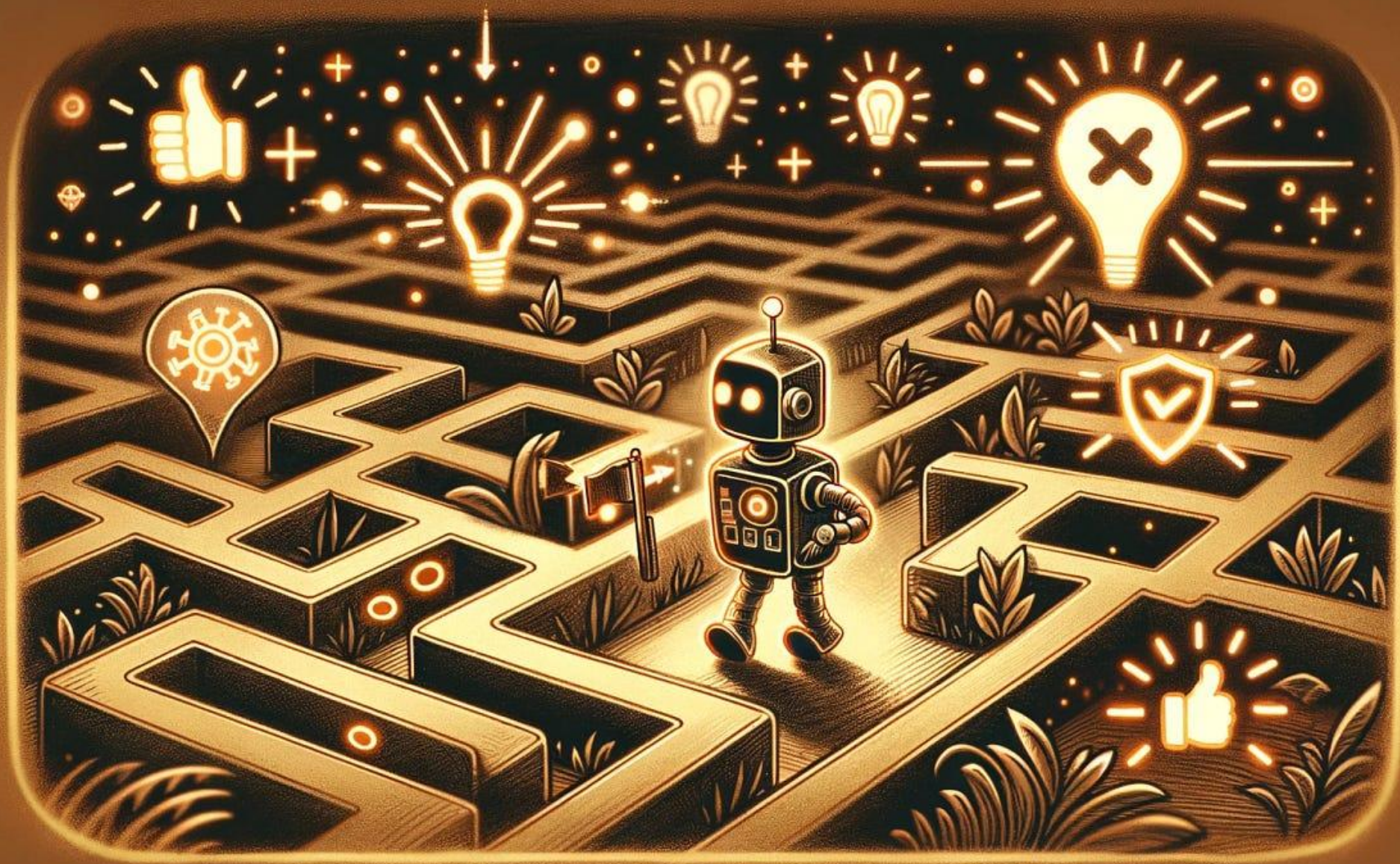
Validate: Trust, but verify

- Start with test
- Benchmark performance



Takeaways





How about LLMs?

- **Advantages (5C)**

- Context
- Consistent
- Comprehensive
- Cheap
- Composable

- **Concerns**

- Black box
- Hallucination
- Update quick
- ... ?



```

AZURE_API_ENDPOINT = "https://big-agi.o
AZURE_API_KEY = "1eVHSu0ETLN1V2kDngWXMZl
AZURE_DEPLOYMENT_NAME = "gpt-4.1"

print(f"Attempting to connect to endpoint")
print(f"Using deployment name: [{AZURE_I
client = AzureOpenAI(
    api_key=AZURE_API_KEY,
    azure_endpoint=AZURE_API_ENDPOINT,
    api_version="2025-01-01-preview"
)

```

```

def get_sentiment_with_llm(text_content, target_subject=None):
    if target_subject:
        analysis_target = f"specifically towards '{target_subject}'"
    else:
        analysis_target = "for the overall text"
    system_prompt = f"""You are a sentiment analysis engine. Your task is to analyze the sentiment {analysis_target}.
You MUST respond with a valid JSON object with two keys:
1. "score": A numerical score from -1.0 (very negative) to 1.0 (very positive), with 0 being neutral.
2. "reasoning": A brief explanation (1-2 sentences) for your score, citing specific phrases or ideas from the text."""

```

```

def get_diverse_sentiment_with_llm(text_content, target_subject=None, num_completions=25): 1 usage
    """

```

```
try:
    response = client.chat.completions.create(
        model=AZURE_DEPLOYMENT_NAME,
        messages=[
            {"role": "system", "content": system_prompt},
            {"role": "user", "content": text_content}
        ],
        response_format={"type": "json_object"},
        # --- USER-REQUESTED PARAMETERS ---
        temperature=0.7,
        top_p=1.0, # top_p=1 is the default, but we set it
        n=num_completions
    )
```

```
# --- 1. SETUP (No changes needed) ---
```

```
CHAT_API_ENDPOINT = os.getenv("AZURE_CHAT_API_ENDPOINT", "https://big-agi.openai.azure.com/")
```

```
CHAT_DEPLOYMENT_NAME = os.getenv("AZURE_CHAT_DEPLOYMENT_NAME", "gpt-4.1") # e.g., "MyCompany-G
```

```
EMBEDDING_API_KEY = os.getenv("AZURE_EMBEDDING_API_KEY", "1eVHSu0ETLN1V2kDngWXMZDp9Cxxi8GxvT9DY")
```

```
EMBEDDING_API_ENDPOINT = os.getenv("AZURE_EMBEDDING_API_ENDPOINT", "https://big-agi.openai.azu
```

```
EMBEDDING_DEPLOYMENT_NAME = os.getenv("AZURE_EMBEDDING_DEPLOYMENT_NAME", "text-embedding-3-lar
```

```
chat_client = AzureOpenAI(api_key=CHAT_API_KEY, azure_endpoint=CHAT_API_ENDPOINT, api_version="2025-01-01-preview")
```



```
def classify_topic_with_llm(topic_string, aspect_name, client):
    """usage
    system_prompt = f"""You are a topic classification expert. Your task is to determine if the following
    For example, if the aspect is 'Lithuania':
    - "Lithuanian-Polish relations" is SPECIFIC.
    - "NATO defense strategy" is SPECIFIC (as Lithuania is a key part of it).
    - "Economic inflation" is GENERAL.
    - "Human rights" is GENERAL.
    Your response MUST be a valid JSON object with a single key "is_specific_to_aspect", which must be a boolean
    """
    try:
        response = client.chat.completions.create(model=CHAT_DEPLOYMENT_NAME,
                                                    messages=[{"role": "system", "content": system_prompt},
                                                                {"role": "user",
                                                                 "content": f"Topic phrase: \"{topic_string}\""}],
                                                    response_format={"type": "json_object"}, temperature=1)
        return json.loads(response.choices[0].message.content).get("is_specific_to_aspect", False)
```

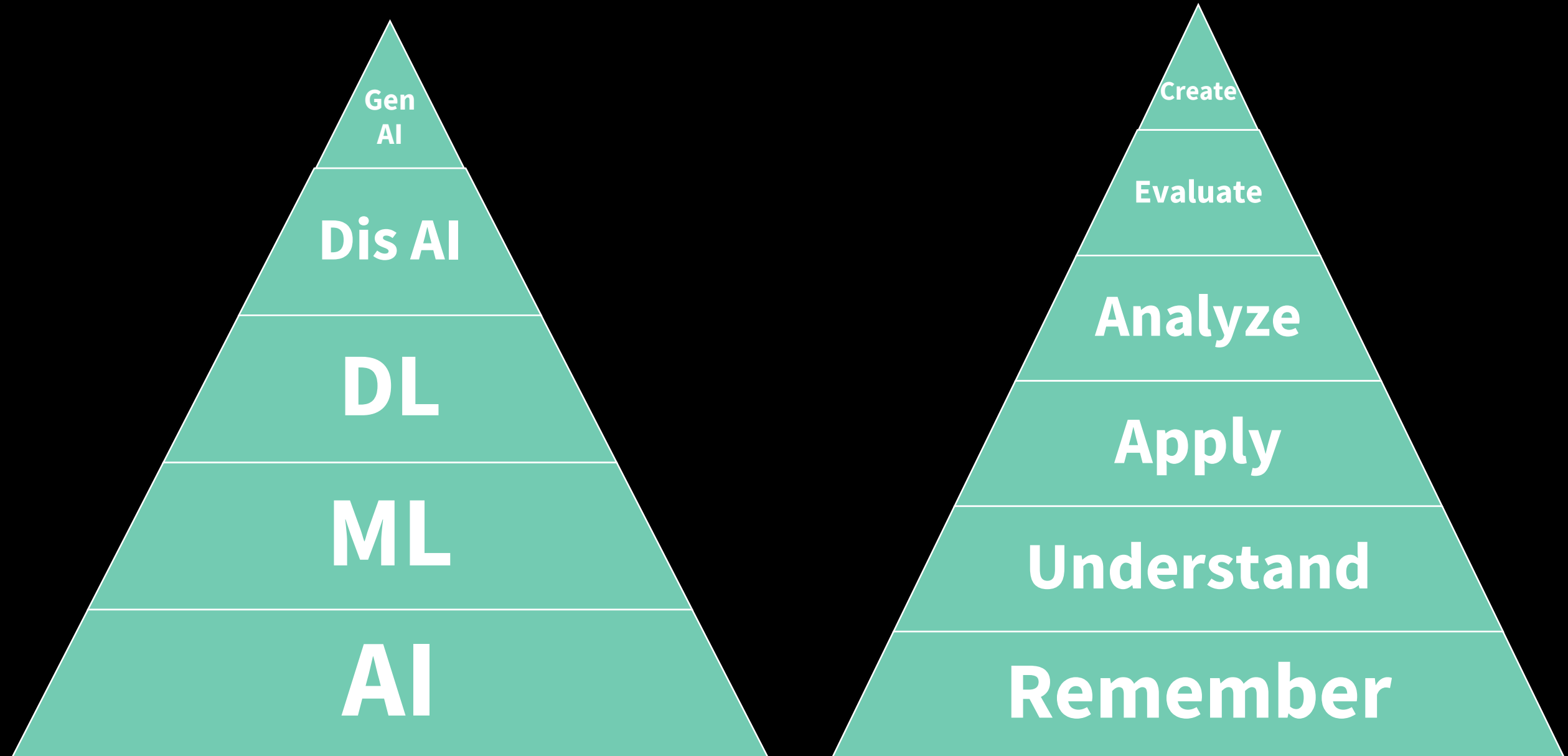
```
# Step 4: Get embeddings and run t-SNE on ALL themes from ALL periods
print("\n\nGetting embeddings for all generated themes...")
for theme in all_themes_data:
    theme['embedding'] = get_embedding(theme['theme_description'])

all_themes_data = [t for t in all_themes_data if t.get('embedding')]
```

What I wish I know before?

- Documentation: Always record your API version, temperature setting, and threshold score, and definition.
- Always experiment with small samples, to see how does code work, and randomly verify outcome.
- Test for a “best setting” and then run with full dataset.
- Clear and precise prompt.
- Validation: compare with alternative tools and human experts.

What is AI, ML, DL and Gen AI?



AI in Management Study

- **Measuring the “Unmeasurable”**
 - ✓ measure team cognitive diversity (Lix et al, 2022)
 - ✓ measure organizational identification (Yang et al., 2025)
- **Identifying Novelty and Predicting the Future**
 - ✓ To find 'prescient' ideas (Vicinanza et al., 2023)
- **Uncovering Hidden Social Dynamics Through Linguistic Style**
 - ✓ measure post-merger integration (Bhatt et al., 2022)
 - ✓ create dynamic measures from static surveys (Lu et al., 2024)

Word Embeddings

- Represents words as vectors, so we can calculate the 'distance' or 'similarity' in meaning between words, sentences, or people.
- Measuring **discursive diversity** in teams by calculating the average semantic distance between members' Slack messages (Lix et al., 2022).
- Measuring **organizational identification** by tracking the similarity between a person's concept of "I" and "we" in their emails (Yang et al., 2025).

Deep Learning Models (Measuring Novelty)

- **What it does:** Understands context so well it can tell you how 'surprising' or 'predictable' a given sentence is. This is called 'perplexity'.
- Identifying prescient ideas by finding text that was highly surprising at the time it was written but became predictable years later (Vicinanza et al., 2023).