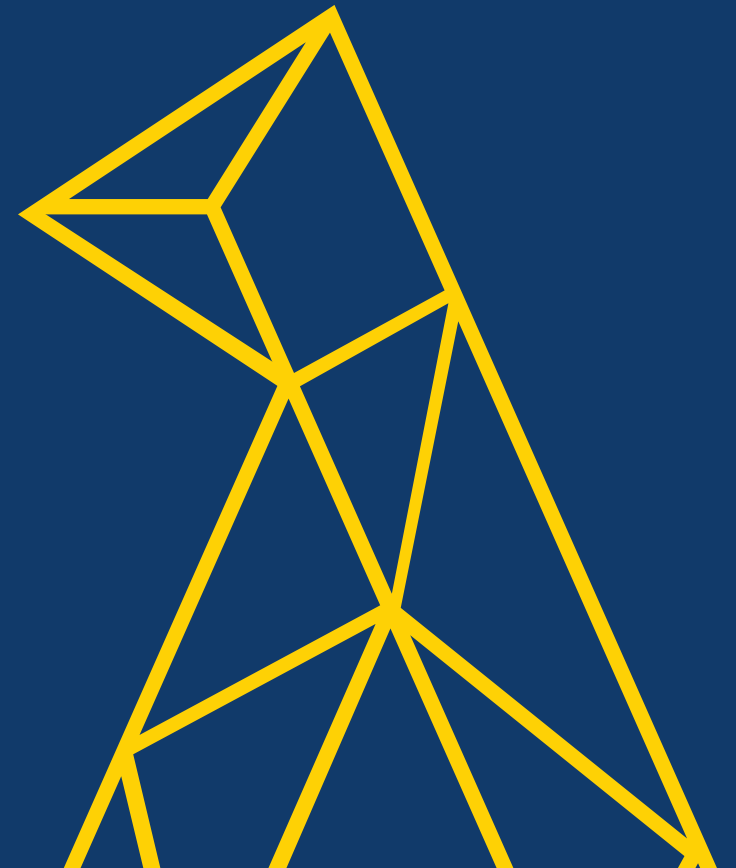


Understanding complex situation descriptions

Aaron Steven White
University of Rochester

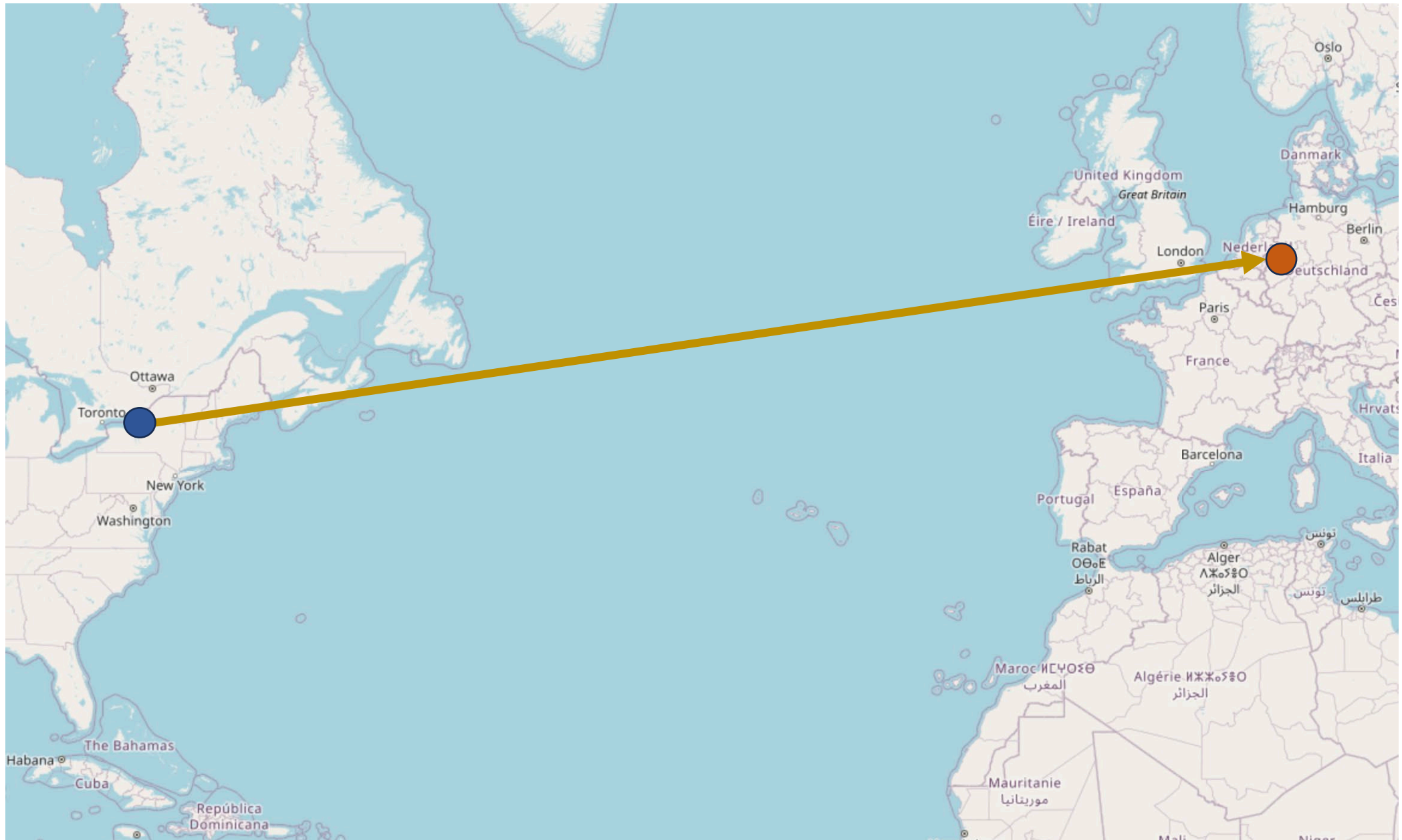
Keynote
NALOMA
4 August 2025



What we do

We use natural language to convey information about *situations*: things that happen or stuff that is true.

I traveled from Rochester to Bochum yesterday.



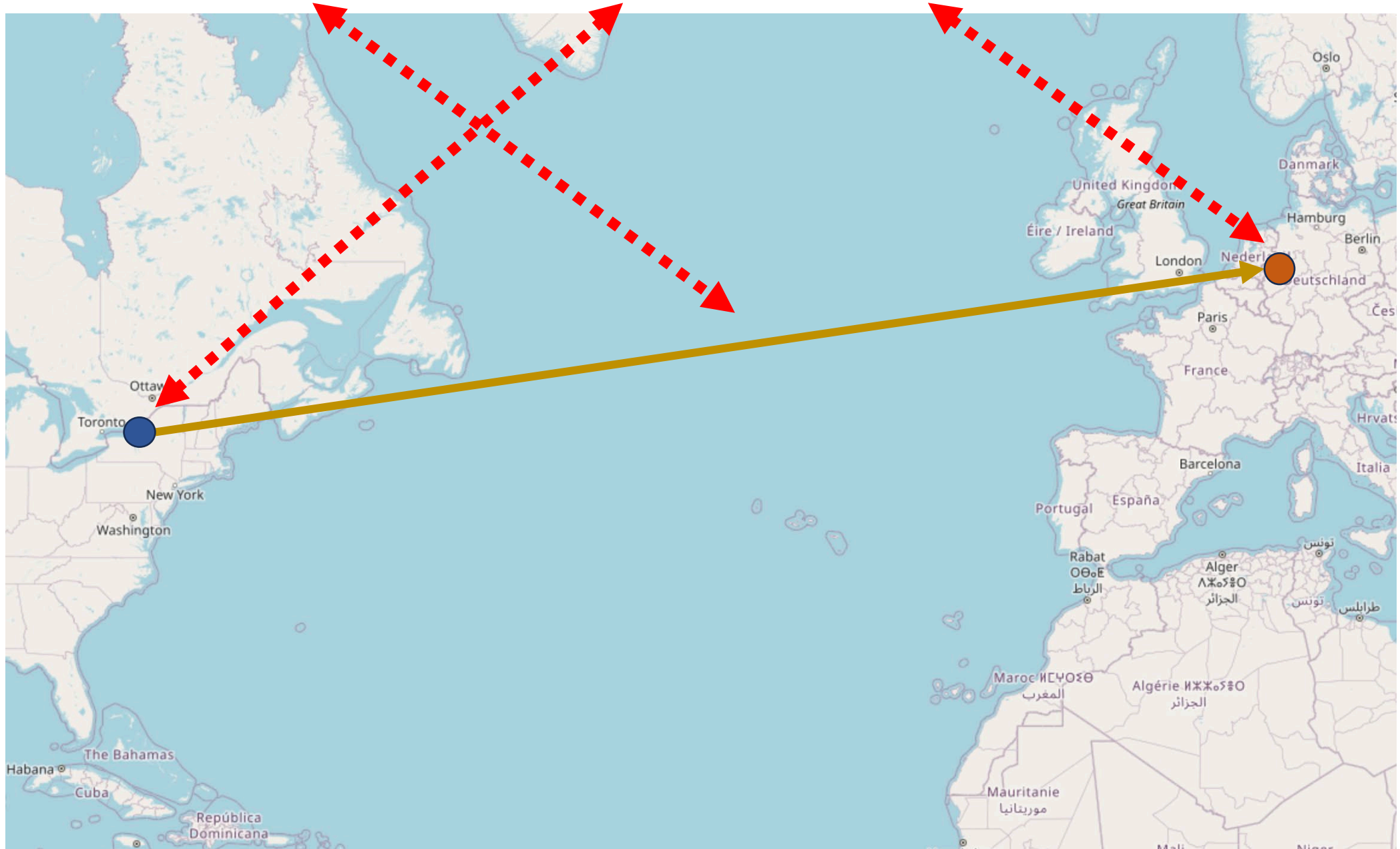
What we do

We use natural language to convey information about *situations*: things that happen or stuff that is true.

How we do this

Systematic relationships between the way we conceptualize situations and the way we describe them.

I traveled from Rochester to Bochum yesterday.



What we do

We use natural language to convey information about *situations*: things that happen or stuff that is true.

How we do this

Systematic relationships between the way we conceptualize situations and the way we describe them.

What this allows us to do

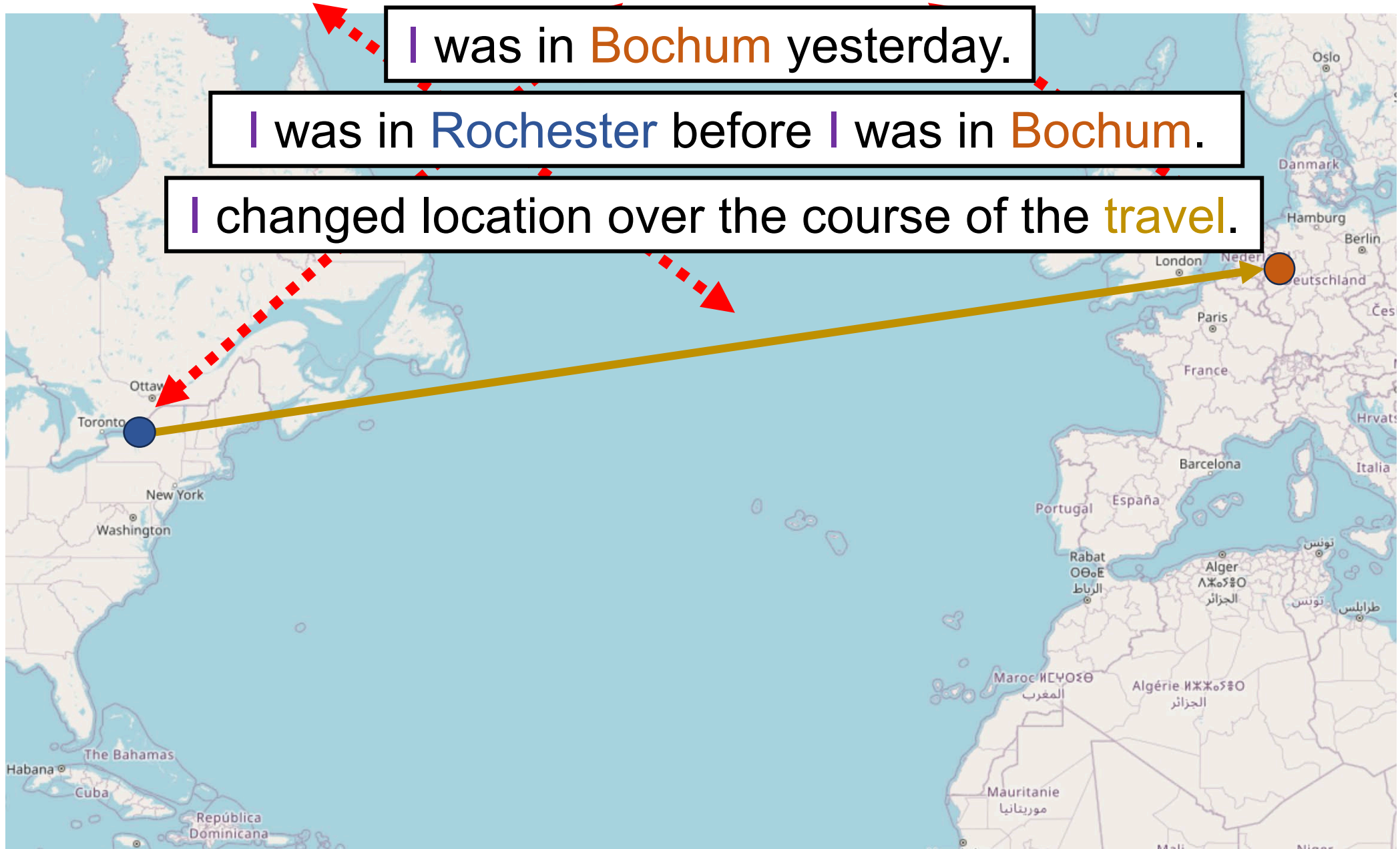
Draw inferences that go beyond what one strictly says in describing a situation.

I traveled from Rochester to Bochum yesterday.

I was in Bochum yesterday.

I was in Rochester before I was in Bochum.

I changed location over the course of the travel.

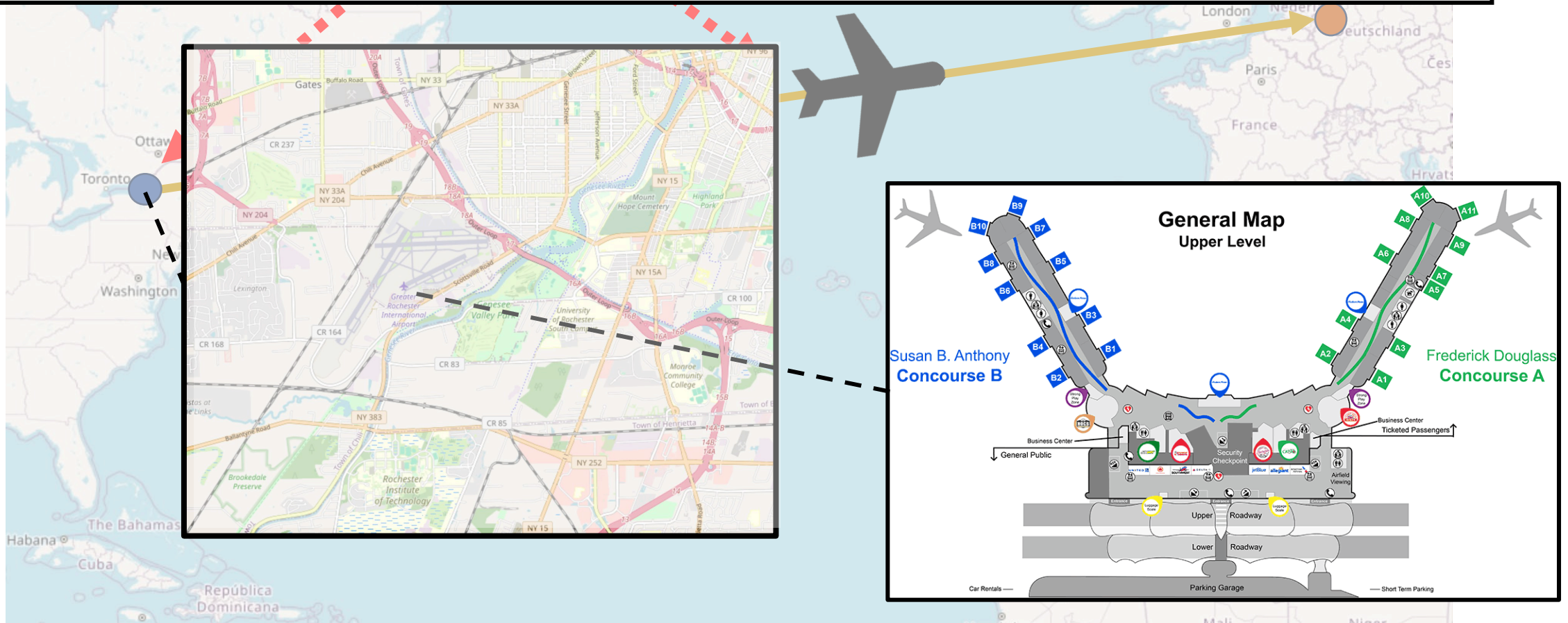


I traveled from Rochester to Bochum yesterday.

I took a flight yesterday.

I traveled to the Rochester airport yesterday.

I went through airport security at the Rochester airport yesterday.



Question

How do we design systems that capture the inferences we draw about situations based on their descriptions?

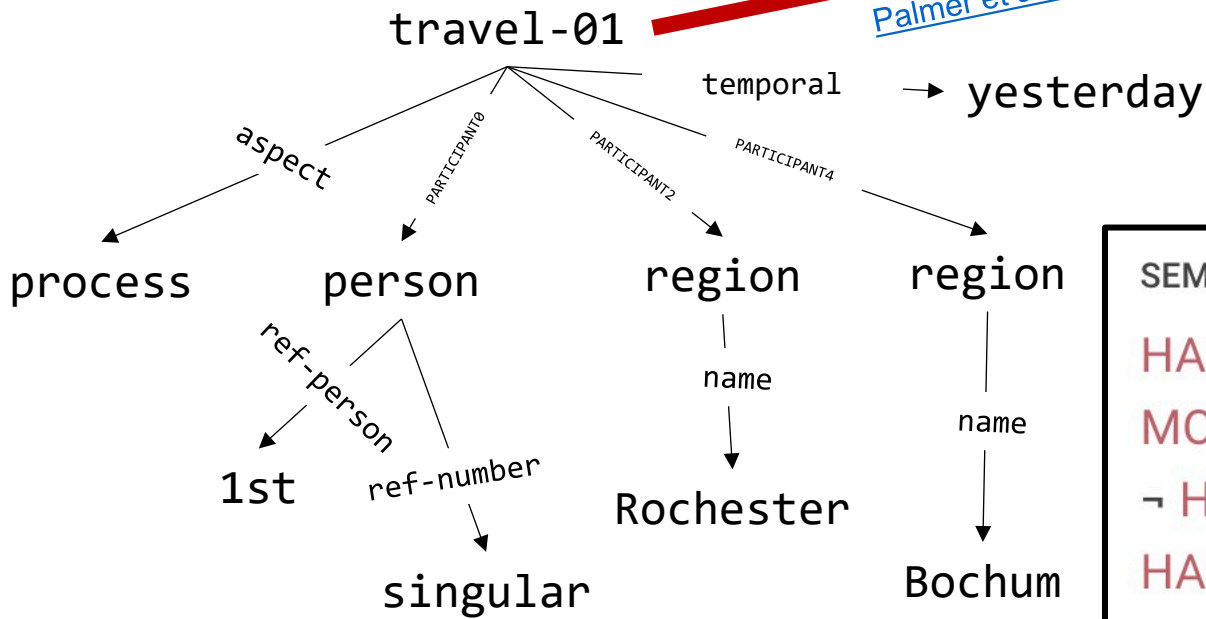
Ontology-factored approach

Map situation description to symbolic situation ontology and draw inferences using rules stated over that ontology.

I traveled from Rochester to Bochum yesterday.

Uniform Meaning Representation
[Van Gysel et al. 2021](#)

PropBank
[Palmer et al. 2005](#)



ROLESET ID: TRAVEL.01

Role Description:

travel, voyaging

Aliases:

TRAVEL

TRAVELING

TRAVELLED

TRAVEL

TRAVELLING

Roles:

Arg0-PPT: traveller (VN Roles: 51.3.2-1-theme)

Arg1-LOC: location or path (VN Roles: 51.3.2-1-location)

Arg2-DIR: start point

Arg4-GOL: destination

SEMANTICS:

HAS_LOCATION(e1 , Theme , ?Initial_Location)

MOTION(ë2 , Theme , Trajectory)

¬ HAS_LOCATION(ë2 , Theme , ?Initial_Location)

HAS_LOCATION(e3 , Theme , ?Destination)

Aaron was in Rochester yesterday.

PAD
OWL
RAMBLE
STROLL
SWEEP
TRAVEL
WADE

VerbNet
[Kipper-Schuler 2005](#)

The horse hopped the fence.

SHOW DEPENDENCY PARSE TREE

SYNTAX:

The horse VERB Trajectory

SEMANTICS:

HAS_LOCATION(e1 , Theme , ?Initial_Location)

MOTION(ë2 , Theme , Trajectory)

¬ HAS_LOCATION(ë2 , Theme , ?Initial_Location)

HAS_LOCATION(e3 , Theme , ?Destination)

Challenge #1: Expense

Annotated corpora are expensive to build and maintain because they require highly trained experts.

Challenge #2: Brittleness

Ontologies do not easily capture the ways in which context modulates the inferences that we draw.

An assassin in Colombia killed a federal judge on a Medellin street.



The assassin chose to be involved in killing the judge.

The antibody then kills the cell.



The antibody chose to be involved in killing the cell.

She was untrained and, in one botched job, killed a client.



She chose to be involved in killing the client.

ALIVE(e1 , Patient)

DO(e2 , ?Agent)

Definition:

Actor in an event who initiates and carries out the event intentionally or consciously, and who exists independently of the event.

Example:

THEY decided to go.

ent)

Question

How do we design systems that capture the inferences we draw about situations based on their descriptions?

Ontology-factored approach

Map situation description to symbolic situation ontology and draw inferences using rules stated over that ontology.

Ontology-free approach

Map situation descriptions to natural language strings expressing the inferences of interest.

QA-SRL/QAMR

UCD ***finished*** the 2006 championship as Dublin champions ,
by ***beating*** St Vincents in the final .

finished

Who finished something? - UCD

What did someone finish? - the 2006 championship

What did someone finish something as? - Dublin champions

How did someone finish something? - by beating St Vincents in the final

beating

Who beat someone? - UCD

When did someone beat someone? - in the final

Who did someone beat? - St Vincents

Challenge #1: Lack of Abstraction

Inferences we can draw by templating a string don't provide information beyond that already in the string.

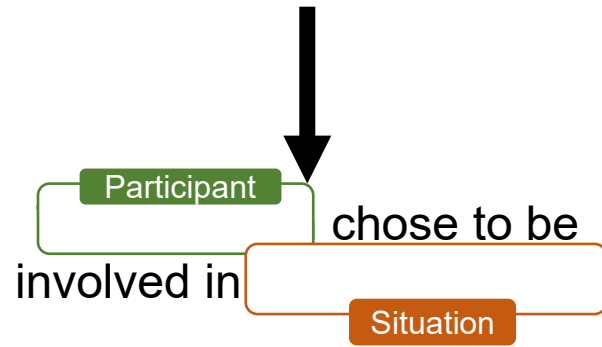
Key Idea: Representational Scaffolding

Ontologies provide guidance about what the interesting inferences are; that guidance undergirds multiple tasks.

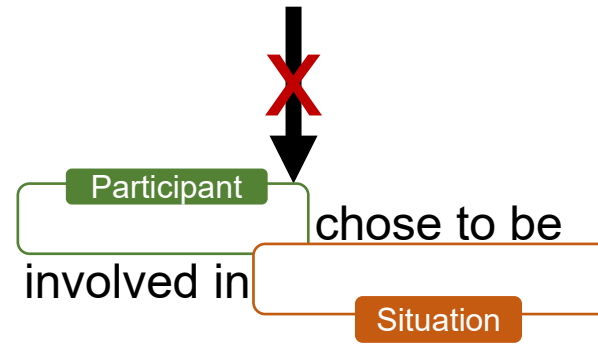
Part 1: Natural Language Inference

Leverage ontology descriptions to generate natural language inference templates filled by semantic parses.

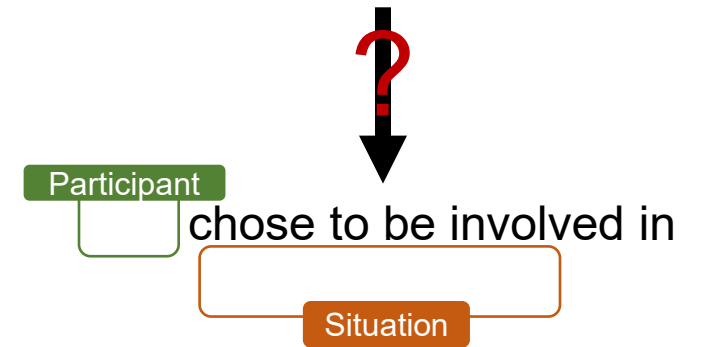
An assassin in Colombia killed a federal judge on a Medellin street.



The antibody then kills the cell.



She was untrained and, in one botched job, killed a client.



ALIVE(e1 , Patient)

DO(e2 , ?Agent)

Definition:

Actor in an event who initiates and carries out the event intentionally or consciously, and who exists independently of the event.

Example:

THEY decided to go.

Challenge #2: Too Much Abstraction

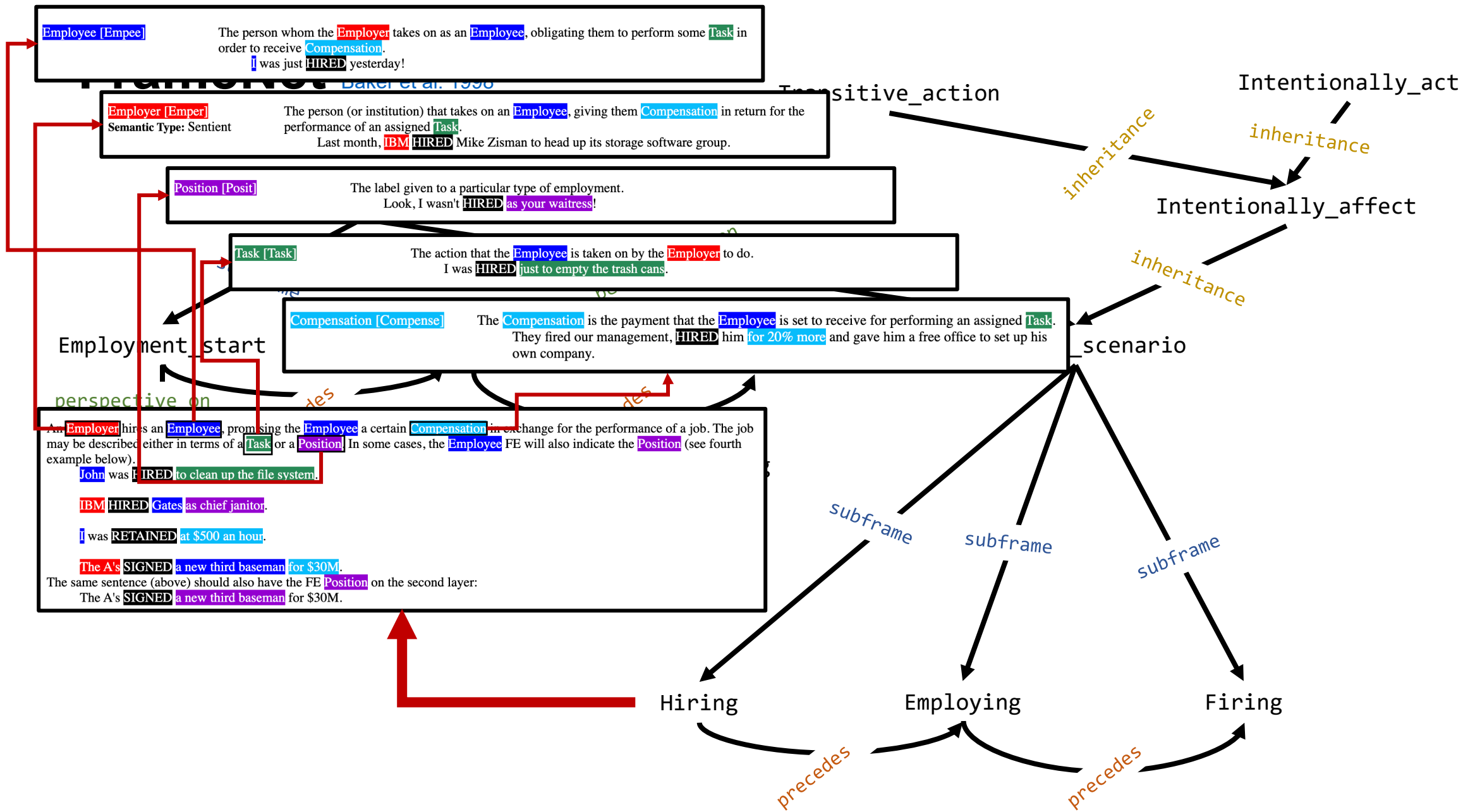
The inferences are interesting and broadly applicable but limited in their specificity.

Part 1: Natural Language Inference

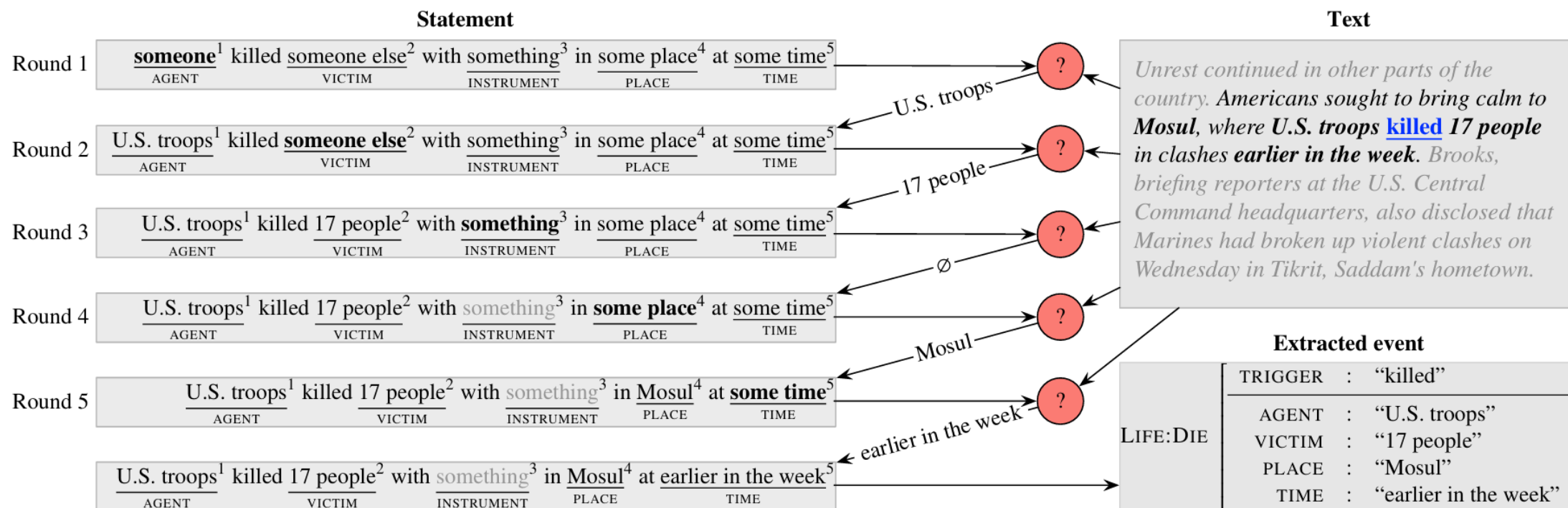
Leverage ontology descriptions to generate natural language inference templates filled by semantic parses.

Part 2: Template Filling

Leverage ontology structure to fill natural language templates across documents describing same event.



“Reading the (annotation) manual”



Challenge #2: Too Much Abstraction

The inferences are interesting and broadly applicable but limited in their specificity.

Challenge #3: Not Enough Context-Sensitivity

Inferences are interesting and specific but lack sensitivity to the context of the situation description.

Part 1: Natural Language Inference

Leverage ontology descriptions to generate natural language inference templates filled by semantic parses.

Part 2: Template Filling

Leverage ontology structure to fill natural language templates across documents describing same event.

Part 3: Event-Keyed Summarization

Use semantic parse to propose events of interest and synthesize info about those events across documents.

Event: Clemency

■ : Executive_Authority ■ : Offender ■ : Crime ■ : Time ■ : Place

Report Summary

During a 2015 visit to **King Salman** of **Saudi Arabia**, Gabriel tried to persuade **Saudi authorities** to free **imprisoned writer Raif Badawi** and to grant him clemency.

Cross-Document Summary

During a 2015 visit, Sigmar Gabriel tried to persuade **Saudi authorities**, including **King Salman**, to grant **Raif Badawi** clemency for **insulting Islam through electronic channels**.

Report

Sigmar Gabriel (Wikipedia Excerpt)

...During a 2015 visit to **King Salman** of **Saudi Arabia**, Gabriel launched an unusual public effort to persuade **Saudi authorities** to free **imprisoned writer Raif Badawi** and grant him **clemency**, amplifying Germany's political voice in a region in which its influence had largely been limited to economic issues in years past. He had been urged by MPs and human rights organizations to take up Badawi's case before his trip...

Source

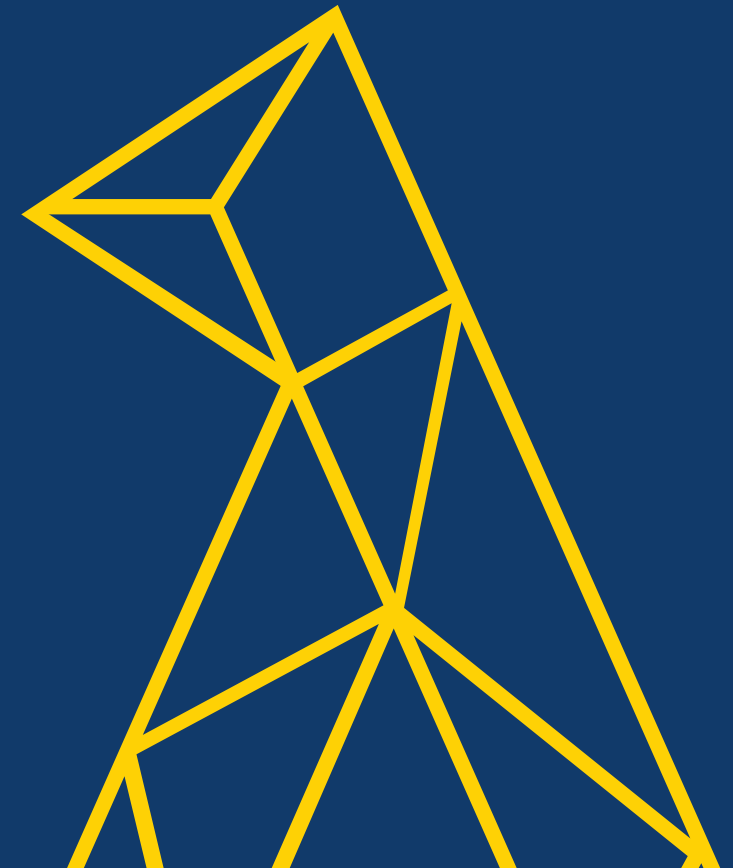
Blogger Lashing: Saudi Rejects Criticism of Badawi Case (BBC Article)

...**Saudi Arabia** has expressed "surprise and dismay" at international media reports criticising the flogging of a Saudi blogger for insulting Islam....

Raif Badawi was sentenced to 1,000 lashes and 10 years in jail last year....Mr Badawi's case has prompted international protests and was raised by several governments. Germany's economic affairs minister and vice-chancellor, Sigmar Gabriel, currently on a visit to Saudi Arabia, was urged by MPs and human rights organisations to take up Mr Badawi's case while in Riyadh. Before going into a meeting with **King Salman**, Mr Gabriel said "the harshness of this sentence, especially the corporal punishment, is something unimaginable for us and of course it weighs on our relations"....

Mr Badawi established the Liberal Saudi Network, a now-closed online forum that sought to encourage debate on religious and political matters in 2008. In 2012, he was arrested and charged with "**insulting Islam through electronic channels**"....

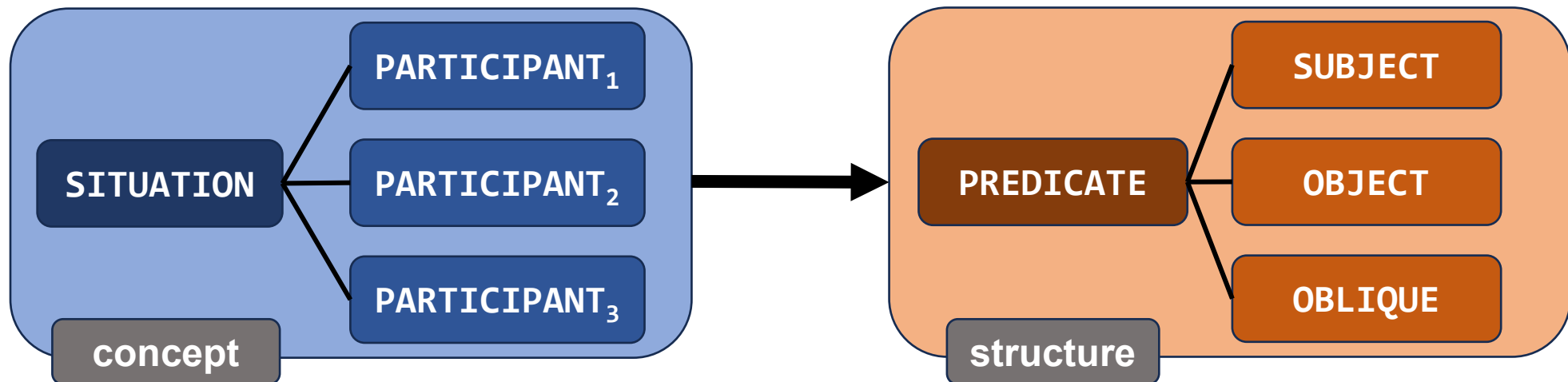
Natural Language Inference



Idea

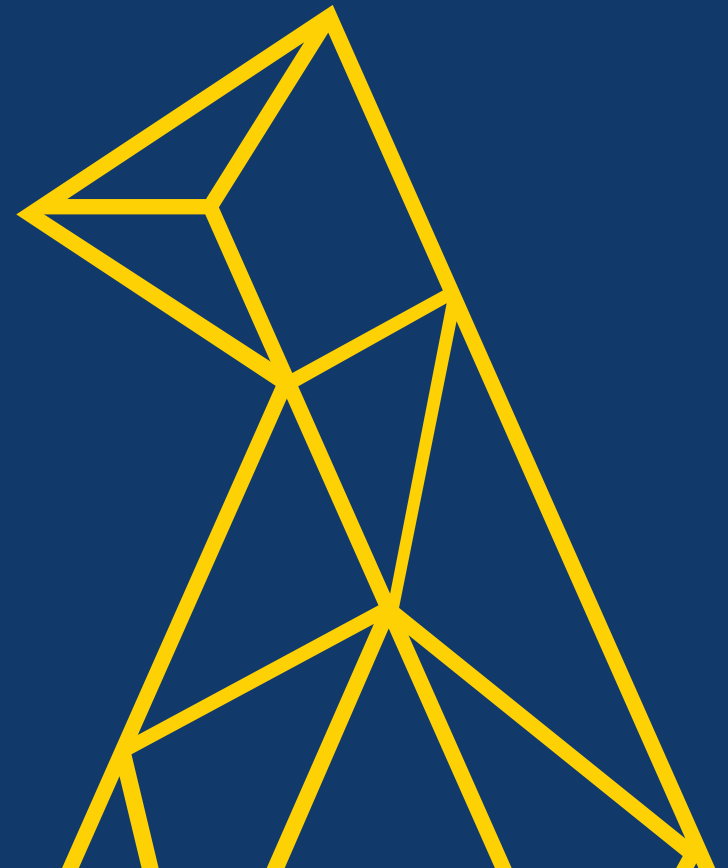
Inferences relevant to mapping from concepts to linguistic structure tend to be inferences humans really care about.

Example #1: Linking Theory



Natural Language Inference

Sentence-Level Descriptions





MELT

MELTER

MELTEE

MELT-WITH

The chef melted the butter.

The butter melted.

The chef melted the butter with a steady low heat.

A steady low heat melted the butter.

The butter ??? melted the chef.

MELT

MELTER

MELTEE

MELT-WITH

AGENT

PATIENT

INSTRUMENT

subject

subject

object

The chef melted the butter with heat.

MELT

MELTER

MELTEE

MELT-WITH



AGENT



PATIENT



INSTRUMENT

MELTER is volitional in MELT.

MELTEE changes in MELT.

MELT-WITH is used to MELT.

Dowty's idea

Having more prototypically agentive properties compared to other roles makes a role more likely to map to SUBJ.

Upshot

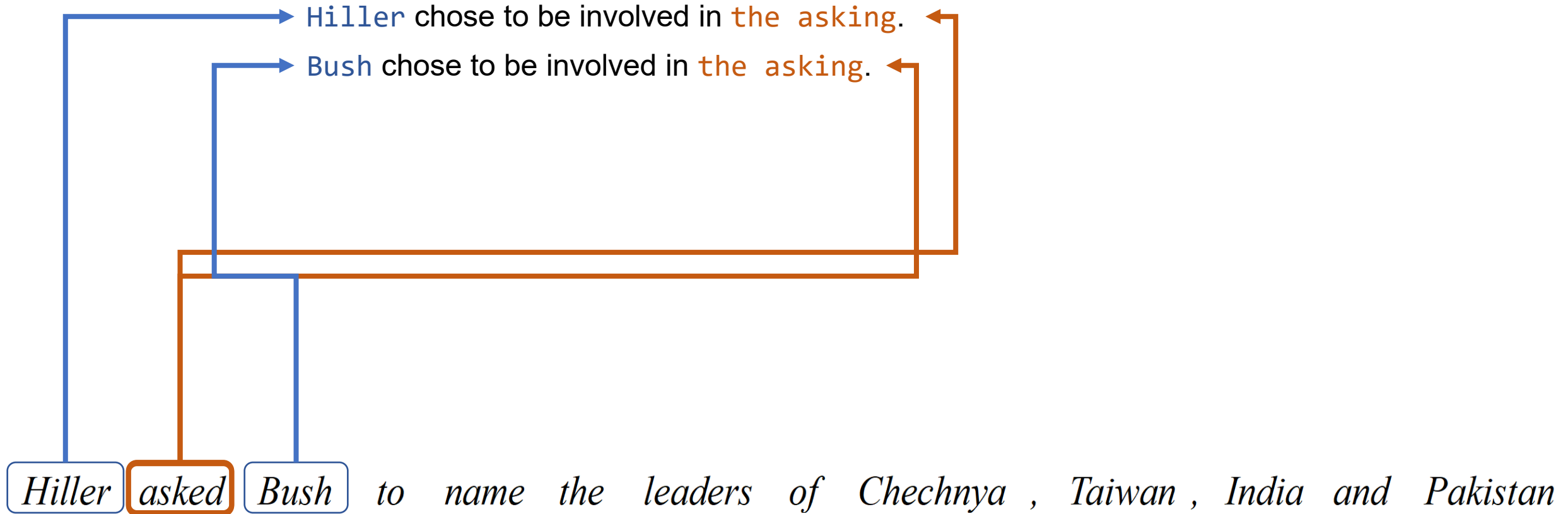
Inferences relevant to linking theory are probably ones humans tend to care a lot about.

Protoagent	<ul style="list-style-type: none"> PARTICIPANT chose to be involved in SITUATION. PARTICIPANT caused SITUATION to happen. PARTICIPANT was aware of being involved in SITUATION. PARTICIPANT changed location during SITUATION. PARTICIPANT existed before SITUATION began. PARTICIPANT existed during SITUATION. PARTICIPANT existed after SITUATION stopped.
Protopatient	<ul style="list-style-type: none"> PARTICIPANT changed possession during SITUATION. PARTICIPANT was used in carrying out SITUATION. PARTICIPANT was changed or somehow altered during or by the end of SITUATION. SITUATION happened for the benefit of PARTICIPANT. The change in PARTICIPANT happened throughout the SITUATION. Only a part or portion of PARTICIPANT was involved in SITUATION.

Two steps

1. Find relevant SITUATION-PARTICIPANT pairs.

PARTICIPANT chose to be involved in SITUATION.



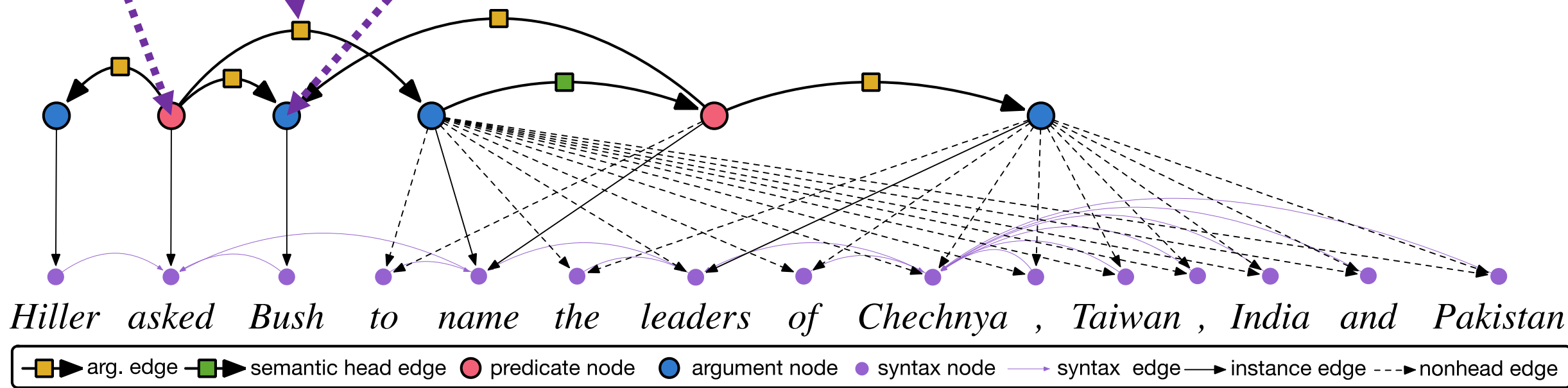
Two steps

1. Find relevant **SITUATION**-**PARTICIPANT** pairs.

Requirement

Very light scaffolding ontology including at least SITUATION, PARTICIPANT, and RELATION.

relation
situation participant




Rule-based approach

[White et al. 2016](#), [Zhang et al. 2017](#)
based on [Rudinger and Van Durme 2014](#)


A set of rules defined on top of Universal Dependencies syntactic annotations.















 **decomp** Public

[Edit Pins](#) [Unwatch 6](#) [Fork 8](#) [Star 57](#)


[master](#) [2 Branches](#) [8 Tags](#) [Add file](#) [Code](#)

 **aaronstevenwhite** Fixes CI testing problem raised by removing predpatt as a dep... ✓ c05929d · 4 hours ago 126 Commits


 .github/workflows	Fixes CI testing problem raised by removing predpatt as a...	4 hours ago
 decomp	Fixes CI errors.	15 hours ago
 docs	Updates installation instructions in README.md and install...	4 hours ago
 tests	Update installation instructions for predpatt dependency	4 hours ago
 .dockerignore	Release of UDS1.0 and Decomp0.1.0	6 years ago
 .readthedocs.yaml	Fixes Read the Docs build failure.	14 hours ago
 CHANGELOG.md	Add CHANGELOG and CI workflow; update README and ...	yesterday
 Dockerfile	Refactor sDockerfile and update installation instructions	14 hours ago
 LICENSE	Updates license year.	15 hours ago
 README.md	Updates installation instructions in README.md and install...	4 hours ago
 pyproject.toml	Update installation instructions for predpatt dependency	4 hours ago
 uds-graph.png	Release of UDS1.0 and Decomp0.1.0	6 years ago

[README](#) [MIT license](#)


Overview

 package


0.3.0

 github


decomp

 CI

passing

 docs

passing

 License

MIT


About

The Universal Decompositional Semantics (UDS) dataset and the Decomp toolkit

- [Readme](#)
- [MIT license](#)
- [Activity](#)
- [Custom properties](#)
- ☆ 57 stars
- 👁 6 watching
- 🍴 8 forks

Report repository

Releases 8

 **Universal Decompositional Se...** Latest

14 hours ago






[+ 7 releases](#)

Packages

No packages published

[Publish your first package](#)

Contributors 5

Deployments 25

<https://github.com/decompositional-semantic-initiative/decomp/>

Rule-based approach

[White et al. 2016](#), [Zhang et al. 2017](#)
based on [Rudinger and Van Durme 2014](#)

A set of rules defined on top of Universal Dependencies syntactic annotations.

Transductive parsing approach

[Stengel-Eskin 2020](#), [2021](#)
based on [Zhang et al. 2019](#)

Encoder-decoder networks that take raw sentence and produce semantic graph on the decoder side.

Two steps

1. Find relevant **SITUATION**-**PARTICIPANT** pairs.
2. Figure out which inferences hold of which pairs.

Requirement

Very light scaffolding ontology including at least SITUATION, PARTICIPANT, and RELATION.

PARTICIPANT chose to be involved in SITUATION.

+ Hiller chose to be involved in the asking.

■ Bush chose to be involved in the asking.

Hiller asked Bush to name the leaders of Chechnya , Taiwan , India and Pakistan

Hiller asked Bush to name the leaders of Chechnya,
Taiwan, India, and Pakistan.

How likely is it that Hiller chose to be involved in the asking?



very unlikely somewhat unlikely not enough information somewhat likely very likely

Hiller asked Bush to name the leaders of Chechnya,
Taiwan, India, and Pakistan.

How likely is it that Bush chose to be involved in the asking?



very unlikely somewhat unlikely not enough information somewhat likely very likely

Data [White et al. 2016](#)

~10k predicate-argument pairs from Penn TreeBank +
~6k predicate-argument pairs from Universal
Dependencies English Web Treebank.

Challenge

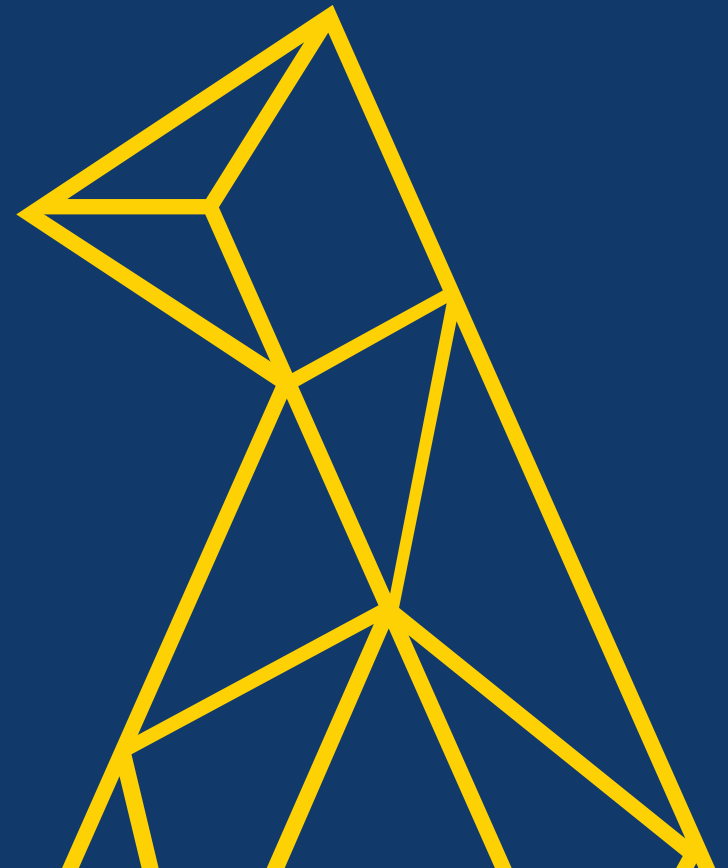
Semantic parses are sentence-bound, meaning it's hard to capture information about complex situations.

Approach [Vashishtha et al. 2019](#), [Gantt et al. 2022](#)

Augment light scaffolding with cross-sentential relations and construct inference templates for those relations.

Natural Language Inference

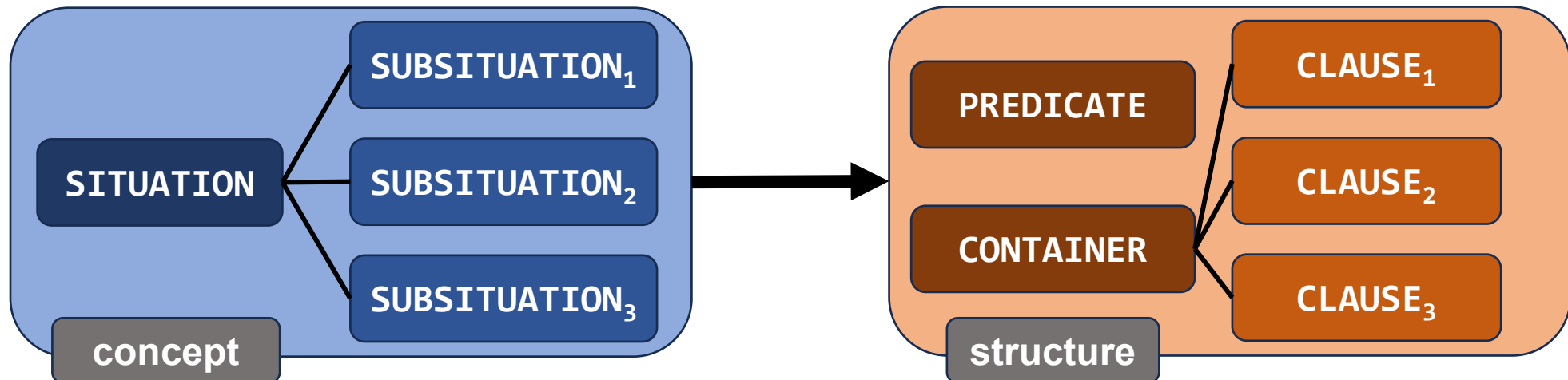
Document-Level Descriptions



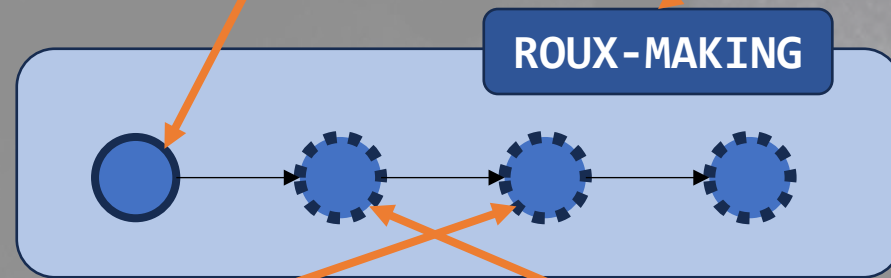
Idea

Inferences relevant to mapping from concepts to linguistic structure tend to be inferences humans really care about.

Example #2: Event Structure



The chef began to make the roux.



Before adding the flour, she melted the butter.

Making the roux took some amount of time.

Adding the flour was part of making the roux.

Melting the butter ended before adding the flour started.

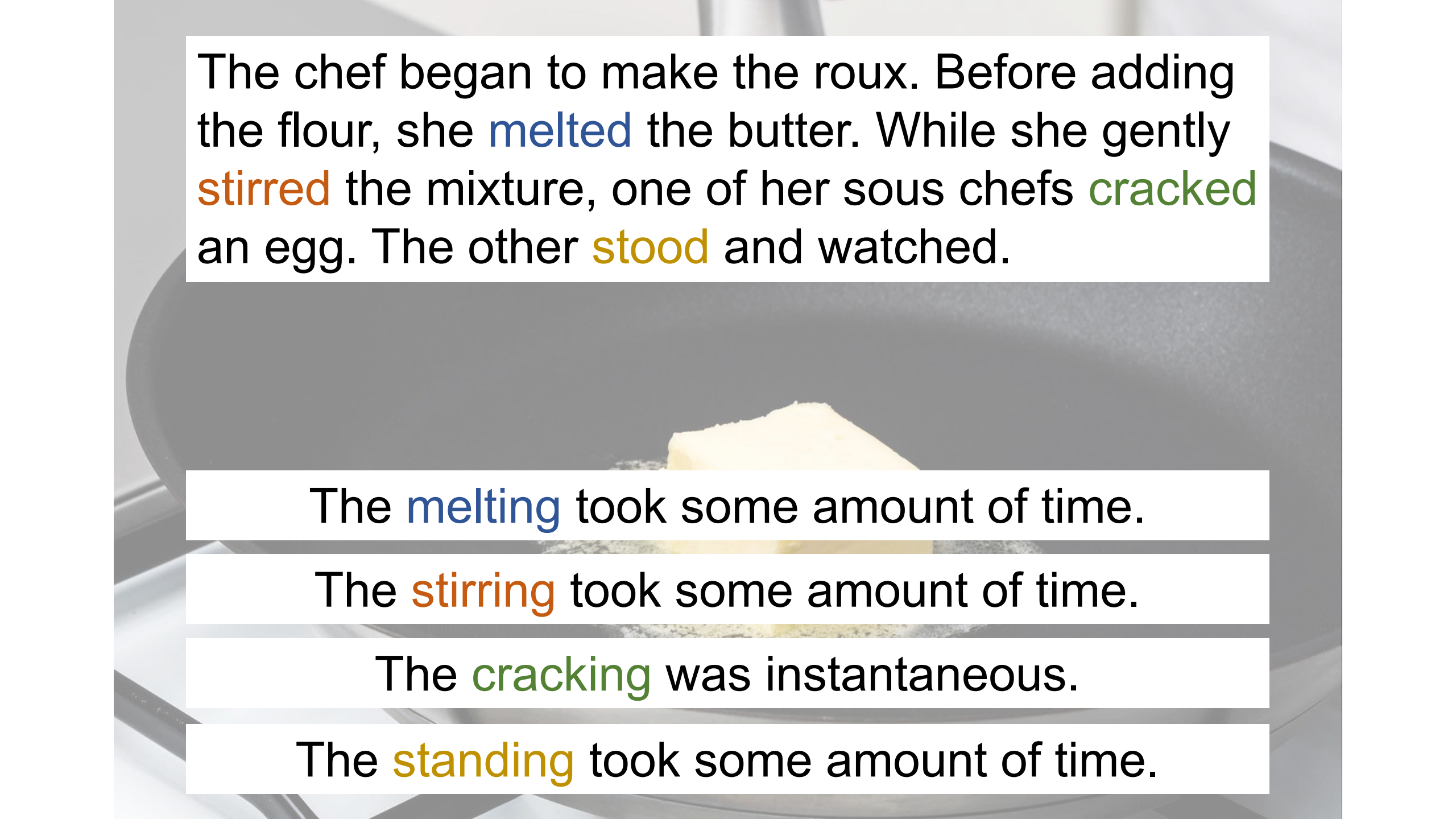
Idea #1 Vendler 1957

Situations fall into classes based on their temporal progression.

Idea #2

These classes can be decomposed in terms of the inferences they trigger about their temporal progression and the relations among their subevents.

Kenny 1963, Lakoff 1965, Verkuyl 1972, Bennett and Partee 1978, Mourelatos 1978, Dowty 1979, Jackendoff 1990, Pustejovsky 1995, i.a.



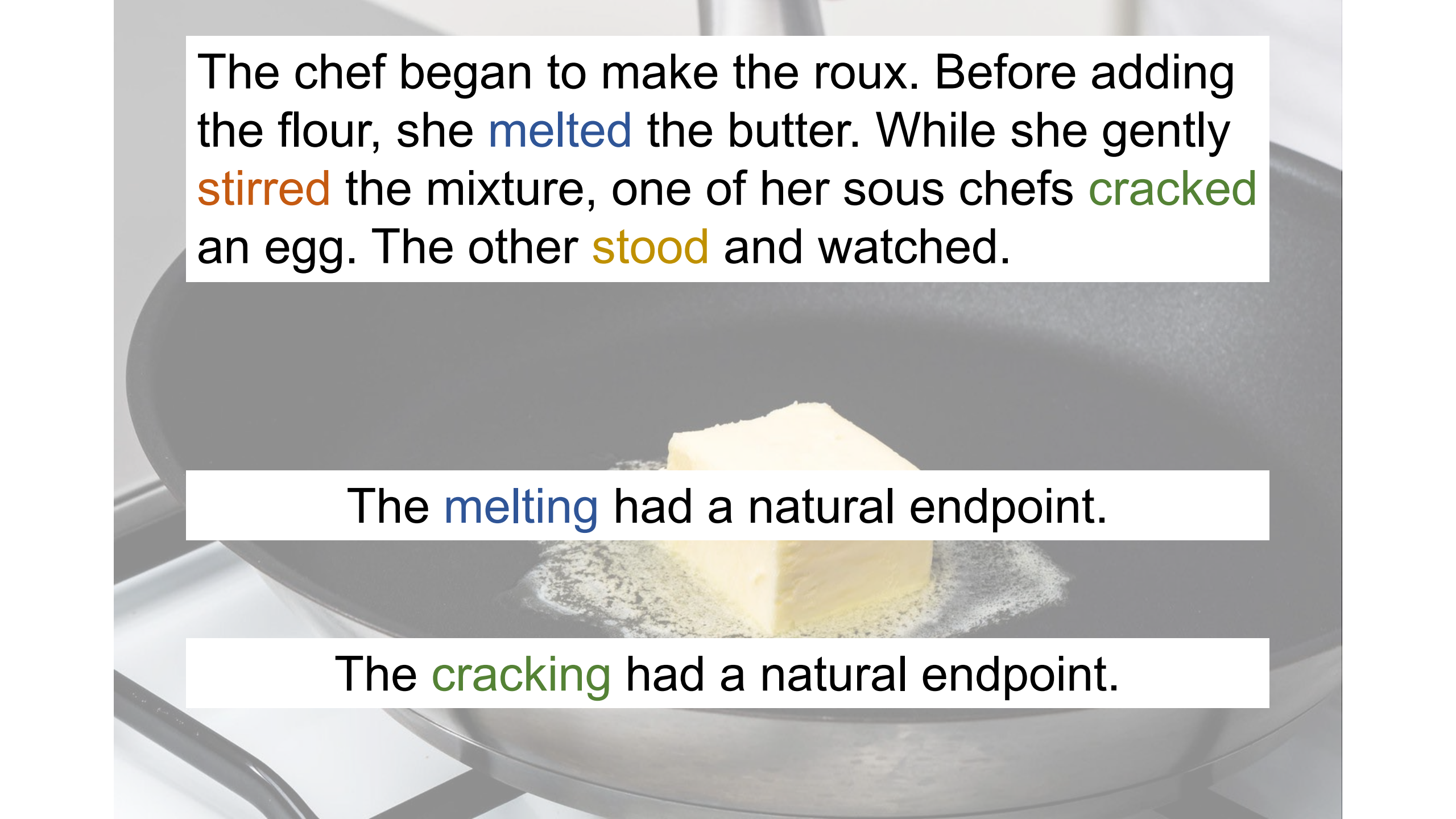
The chef began to make the roux. Before adding the flour, she **melted** the butter. While she gently **stirred** the mixture, one of her sous chefs **cracked** an egg. The other **stood** and watched.

The **melting** took some amount of time.

The **stirring** took some amount of time.

The **cracking** was instantaneous.

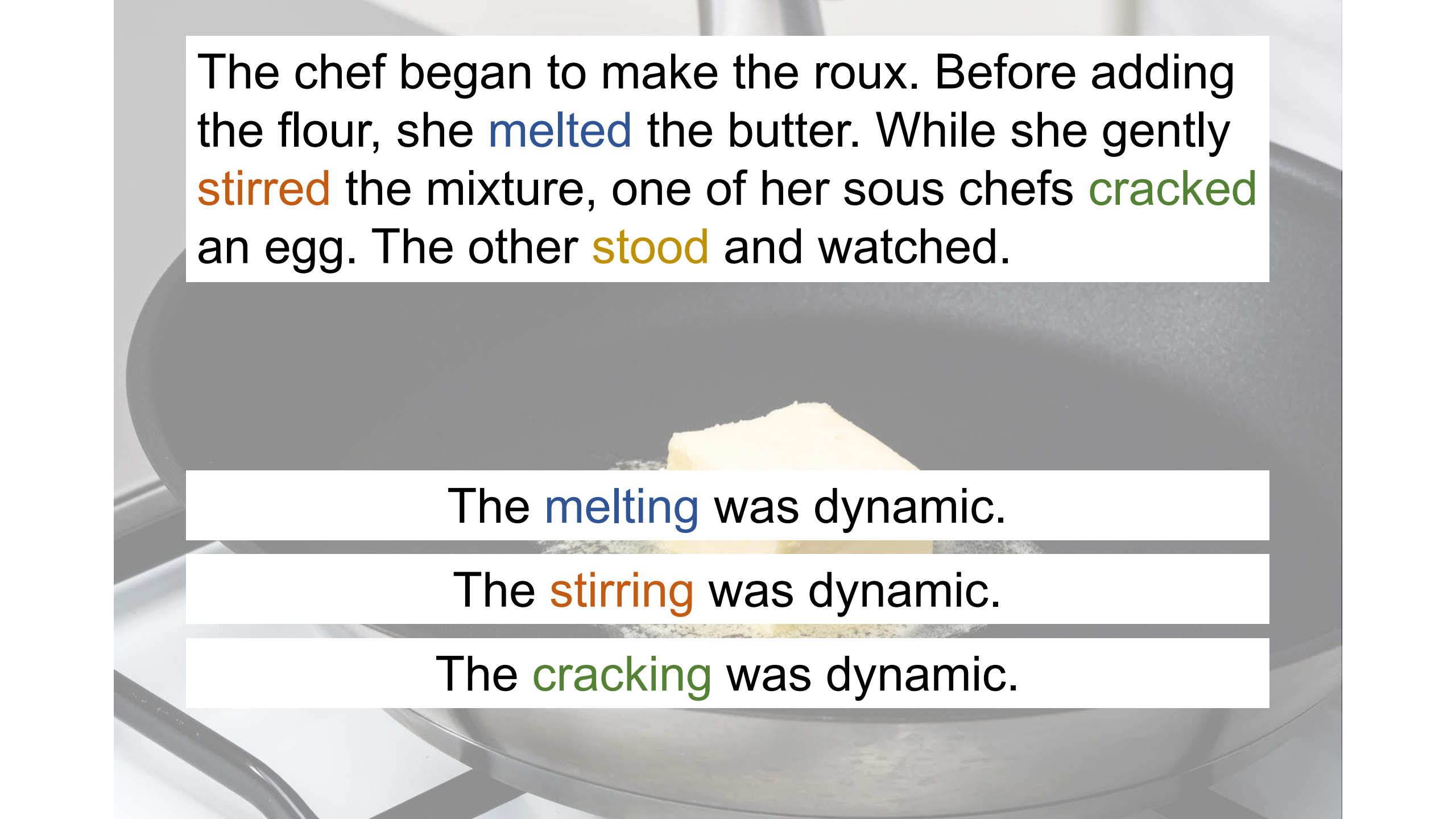
The **standing** took some amount of time.

The background image shows a close-up of a black frying pan on a stovetop. A pat of butter is melting in the center of the pan, with a pool of liquid butter forming around its base. The pan is set against a blurred background of a kitchen, including a white wall and a wooden countertop.

The chef began to make the roux. Before adding the flour, she **melted** the butter. While she gently **stirred** the mixture, one of her sous chefs **cracked** an egg. The other **stood** and watched.

The **melting** had a natural endpoint.

The **cracking** had a natural endpoint.

The background image shows a close-up of a chef's white hat and a dark frying pan. A pat of butter is melting in the center of the pan, with some oil visible around its base. The text is overlaid on this image in three separate white boxes.

The chef began to make the roux. Before adding the flour, she **melted** the butter. While she gently **stirred** the mixture, one of her sous chefs **cracked** an egg. The other **stood** and watched.

The **melting** was dynamic.

The **stirring** was dynamic.

The **cracking** was dynamic.

Event
internal

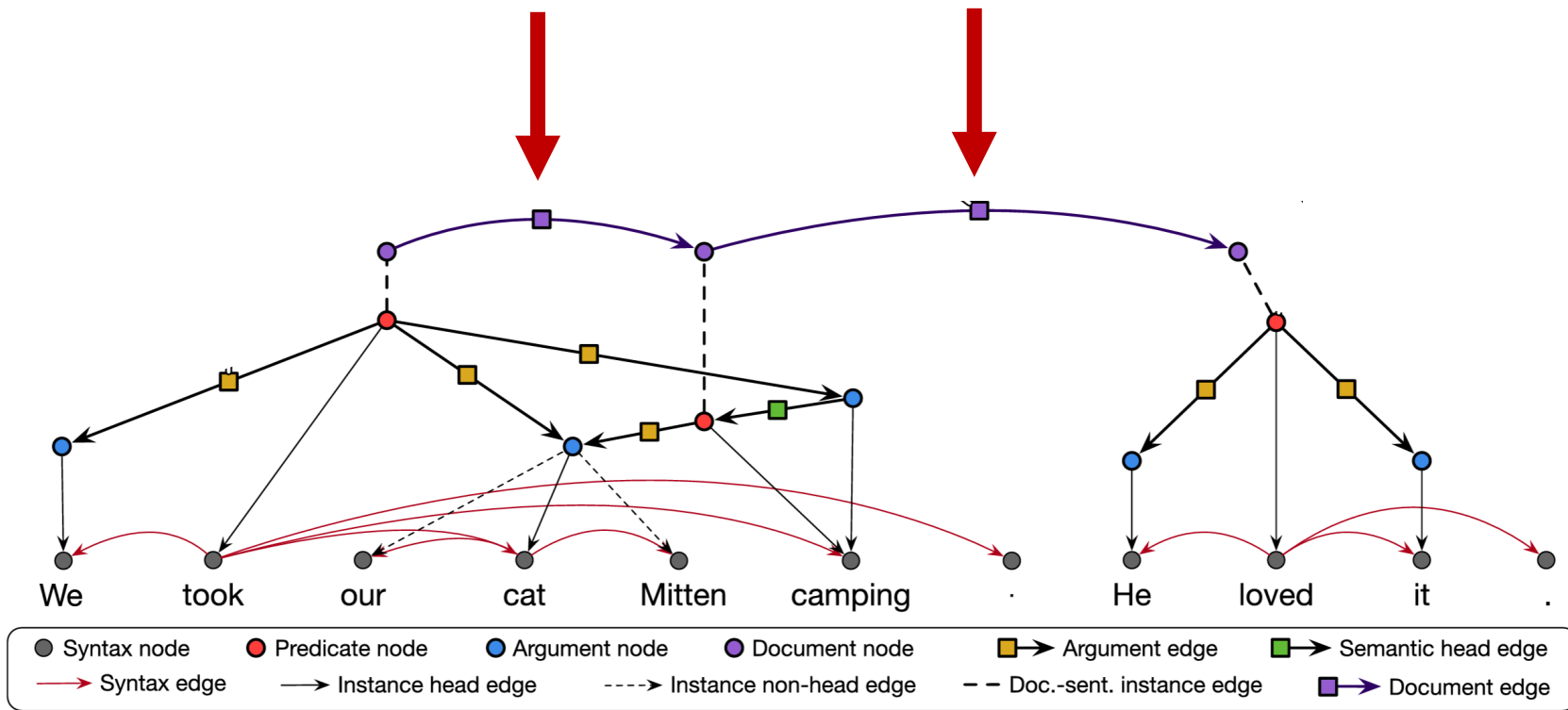
- SITUATION lasted TIME-UNIT.
- SITUATION was dynamic.
- SITUATION had natural parts.
 - Parts of SITUATION are similar to each other.
 - Parts of SITUATION lasted TIME-UNIT on average.

Event
mereology

- SITUATION1 was part of SITUATION2.
- SITUATION2 was part of SITUATION1.

Temporal
relations

- SITUATION1 started before SITUATION2 started.
- SITUATION1 ended before SITUATION2 started.
- SITUATION1 started before SITUATION2 ended.
- SITUATION1 ended before SITUATION2 ended.



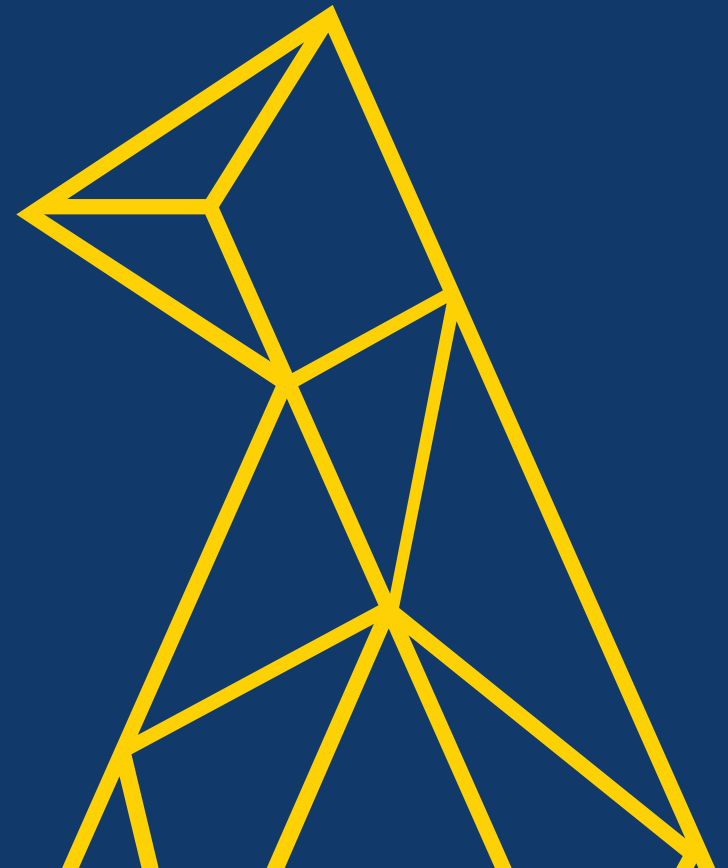
Data

~32k predicates from UD-EWT for

~70k predicate-predicate pairs from UD-EWT

Natural Language Inference

Interim Discussion



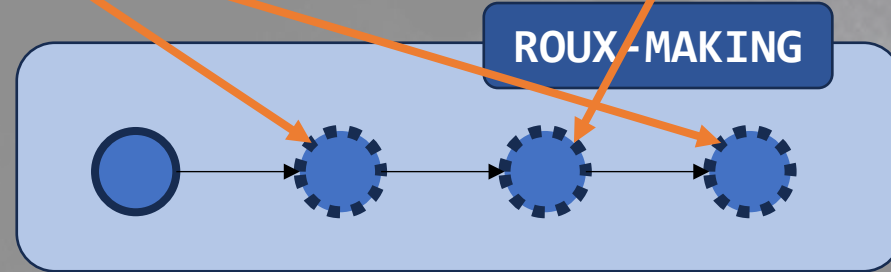
Goal

Find a set of inference templates that are both interesting and broadly applicable across many situations.

Challenge

Not all situation descriptions are anchored by a predicate; yet, we can draw inferences about that situation.

She melted the butter, then added the flour and stirred the mixture gently.



Challenge

Not all situation descriptions are anchored by a predicate; yet, we can draw inferences about that situation.

Approach

Lift the requirement that a situation needs to be anchored by a predicate.

Task

Generalized template extraction

Similar to

Event argument extraction, which extends semantic role labeling from the sentence level to the document level.

She melted the butter. Then, she added the flour. And finally, she stirred the mixture gently.

Template 1: MAKE-ROUX

MAKER: {"She"}
FAT: {"the butter"}
THICKENER: {"the flour"}
ROUX: {"the mixture"}
HEATING-SURFACE: NULL
HEATING-METHOD: NULL
STIRRING-IMPLEMENT: NULL

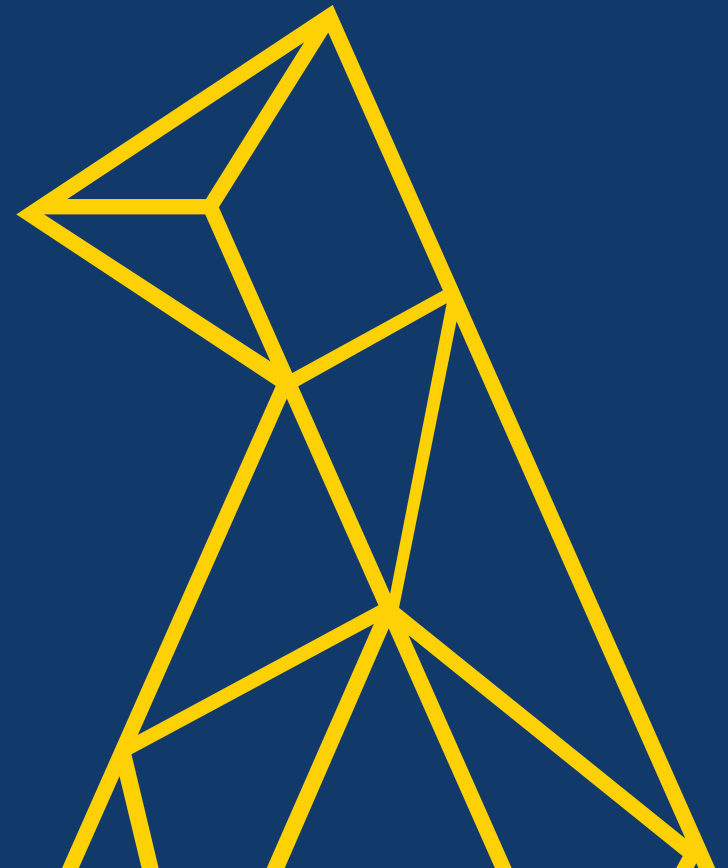
Template 2: MELT

MELTER: {"She"}
MELTEE: {"the butter"}
HEATING-SURFACE: NULL
HEATING-METHOD: NULL

Template 3: MIX

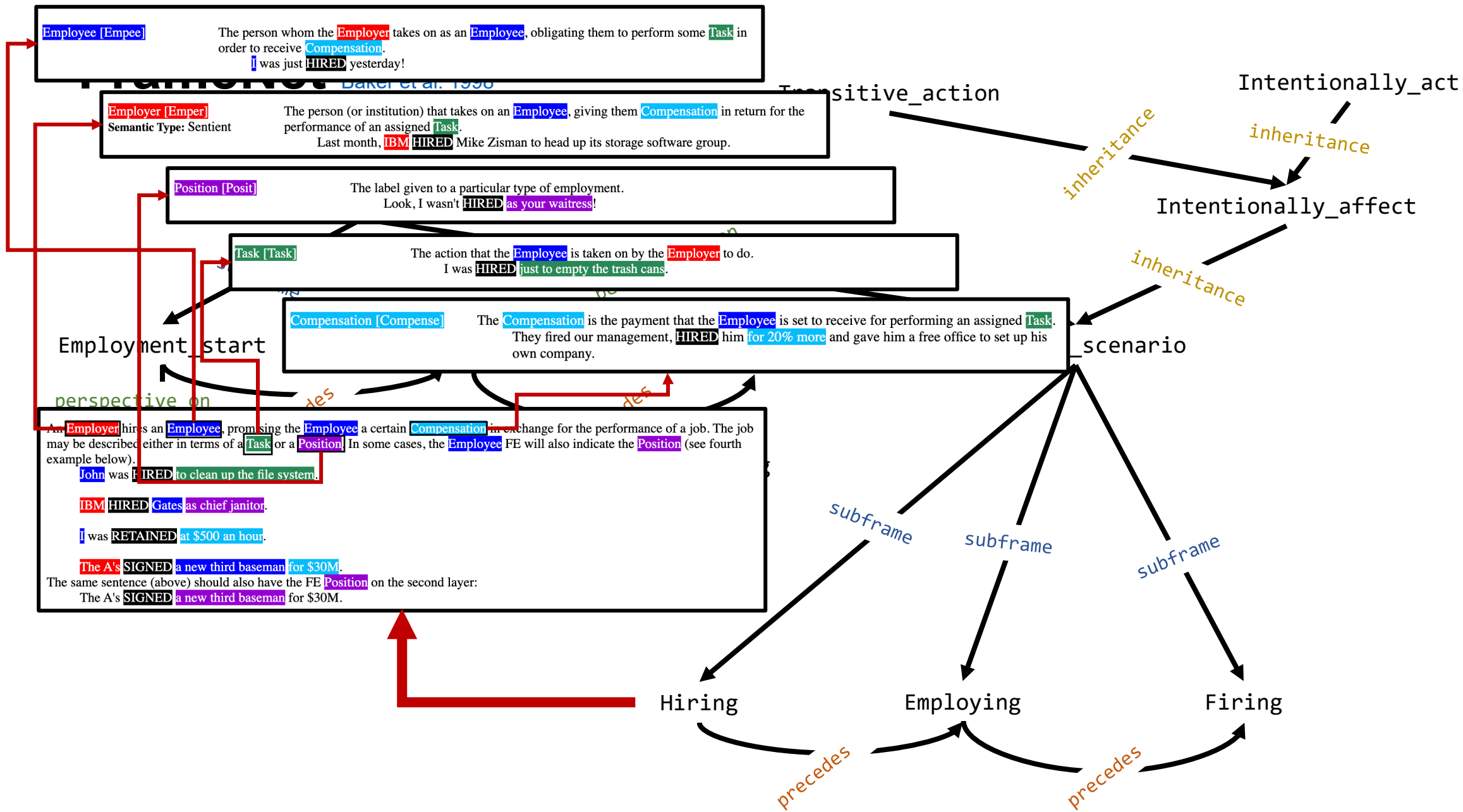
MIXER: {"She"}
MIXING-IMPLEMENT: NULL
INGREDIENTS: {"the butter", "the flour"}
RESULT: {"the mixture"}

Template Filling



Goal

Leverage ontology structure to fill natural language templates across documents describing same event.

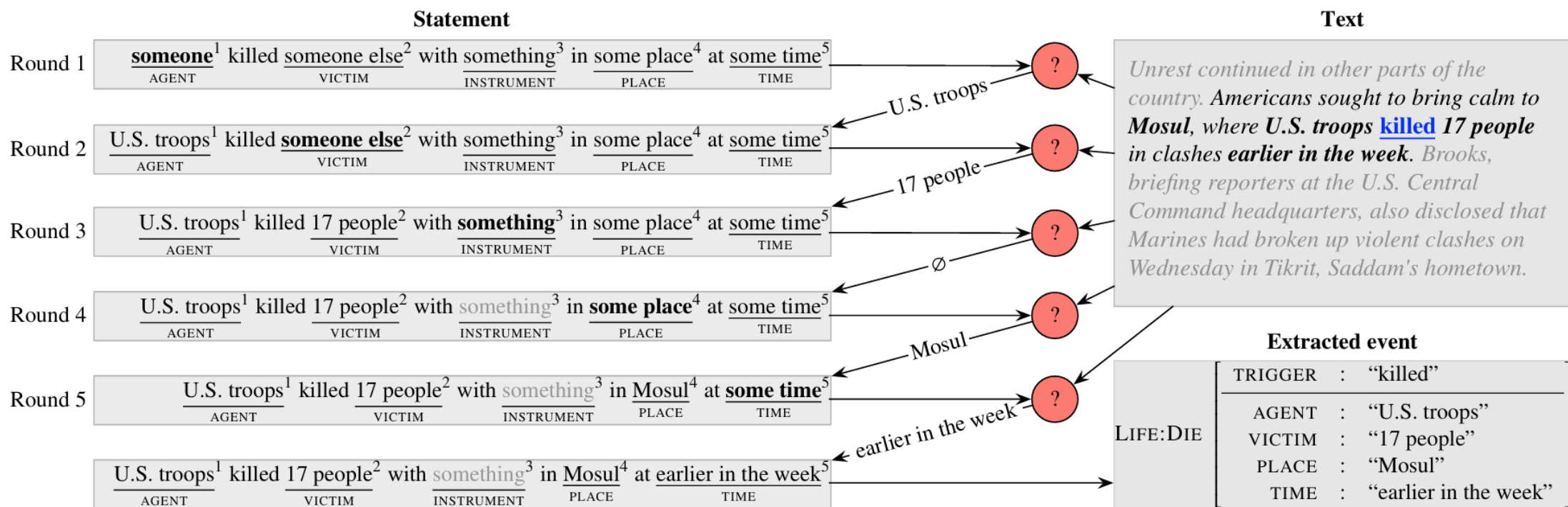


Goal

Leverage ontology structure to fill natural language templates across documents describing same event.

Idea

Datasets annotated with broad-coverage ontologies provide guidance about candidate inferences.



Challenge #1

FrameNet (Baker et al. 1998), PropBank ([Palmer et al. 2005](#))

Datasets annotated with broad-coverage ontologies* tend to be annotated at the sentence level.

*that anchor to the text and have the sorts of rich glosses we need: MS-AMR ([O’Gorman et al., 2018](#)), UMR ([Van Gysel et al. 2021](#))

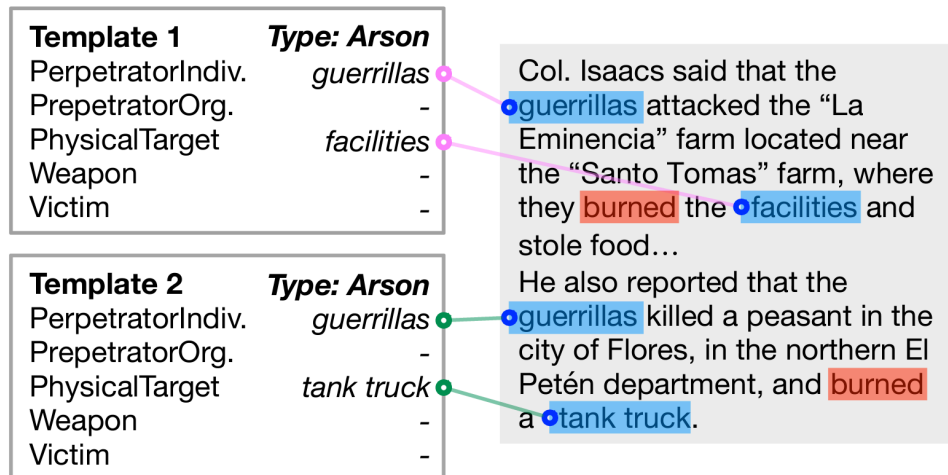
Challenge #2

RAMS ([Ebner et al., 2020](#)), WikiEvents ([Li et al., 2021](#)), DocEE ([Tong et al., 2022](#))

Datasets annotated at the document-level tend to be annotated with narrow ontologies.

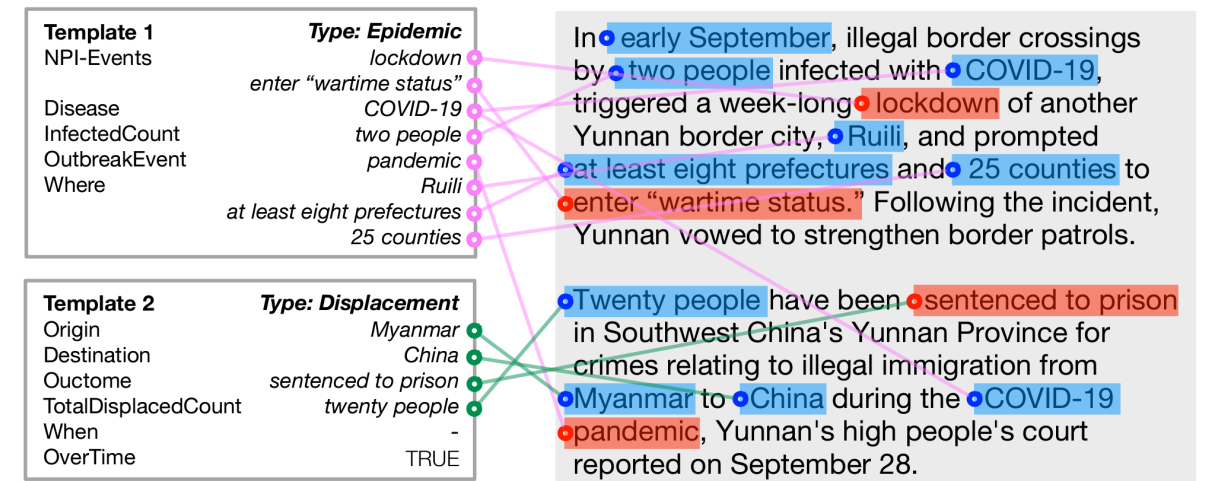
MUC-4 Ontology

- arson
- attack
- bombing
- kidnapping
- murder
- robbery



IARPA BETTER Granular Ontology

- incidents of corruption
- natural disasters
- human migration events
- disease outbreaks or epidemics
- protests or demonstrations
- acts of terrorism



Challenge #3

Even for datasets annotated with highly constrained ontologies, it is hard to predict templates.

Model (Encoder)	SciREX						MUC-4								
	CEAF-REE _{def}			CEAF-RME			CEAF-REE _{def}			CEAF-REE _{impl}			CEAF-RME		
	P	R	F ₁	P	R	F ₁	P	R	F ₁	P	R	F ₁	P	R	F ₁
TEMPGEN (BART _{base})	8.1											46.4	58.3	31.0	40.5
TEMPGEN (BART _{large})	19.1											47.2	61.3	32.9	42.8
GTT (BERT _{base})	-											50.2	55.0	36.8	44.1
ITERX (BERT _{base})	16.2	7.6	10.4	16.2	17.4	16.8	41.3	27.9	33.3	52.3	51.1	51.7	47.2	45.0	46.1
ITERX (BART _{base} ^{enc})	15.0	15.0	15.0	14.3	35.4	20.3	39.2	24.8	30.4	49.8	45.7	47.6	44.8	40.1	42.3
ITERX (T5 _{large} ^{enc})	26.4	12.4	16.9	25.0	40.6	31.0	53.5	26.2	35.2	60.9	46.9	53.0	55.8	42.4	48.2

This is a hard task!



metametric Public

Watch 2

Fork 0

Star 3

main

3 Branches

8 Tags

Go to file

t

Add file

<> Code

ctongfei better typing (#37) ✓

a368b66 · 8 months ago

87 Commits

github/workflows	Update release.yml	9 months ago
docs	some doc touch-ups (#21)	2 years ago
src/metametric	better typing (#37)	8 months ago
tests	Changed the build backend and package management to ...	9 months ago
.gitignore	Added release action (#32)	9 months ago
.python-version	Changed the build backend and package management to ...	9 months ago
README.md	Updated documentation and authorships. (#15)	2 years ago
mkdocs.yml	Update mkdocs.yml (#22)	2 years ago
pyproject.toml	Bumped the version and added loading version from pypr...	8 months ago
uv.lock	Bumped the version and added loading version from pypr...	8 months ago

README

metametric

The `metametric` Python package offers a set of tools for quickly and easily defining and implementing evaluation metrics for a variety of structured prediction tasks in natural language processing (NLP) based on the framework presented in the following paper:

[A Unified View of Evaluation Metrics for Structured Prediction](#). Yunmo Chen, William Gantt, Tongfei Chen, Aaron Steven White, and Benjamin Van Durme. *EMNLP 2023*.

About

This is the codebase of the paper "A Unified View of Evaluation Metrics for Structured Prediction".

[metametric.omnuy.me/](#)

Readme

Activity

3 stars

2 watching

0 forks

Report repository

Releases 8

0.2.1 Latest

on Nov 4, 2024

+ 7 releases

Contributors 3

wanmok Yunmo Chen

ctongfei Tongfei Chen

wgantt Will Walden

Deployments 35

github-pages 8 months ago

release 8 months ago

<https://github.com/wanmok/metametric>

[Chen et al. 2023b](#)

Challenge #3

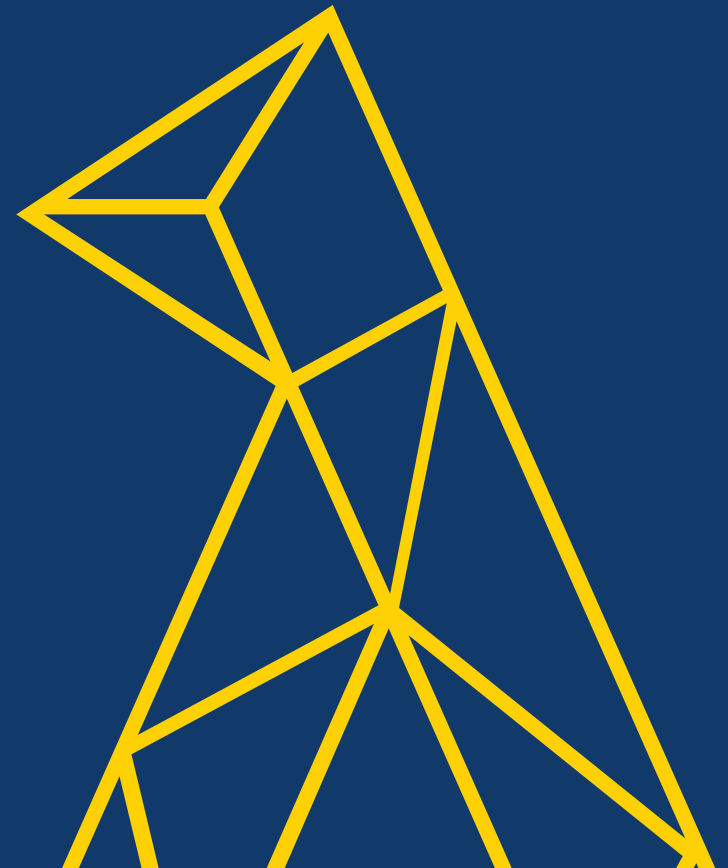
Even for datasets annotated with highly constrained ontologies, it is hard to predict templates.

Upshot

Need template extraction systems on broad-coverage ontologies to generate interesting candidate inferences.

Template Filling

Event individuation



Challenge

Difficult for annotators to agree on how many instances of a particular complex situation type are described by text.

A bomb exploded today in a Lima restaurant, and a second device that had been placed in the same establishment was deactivated by the Peruvian National Police. There were no victims, and the explosion caused very little damage to the restaurant...Guerrillas of the Tupac Amaru Revolutionary Movement (MRTA) have claimed credit for the terrorist act....

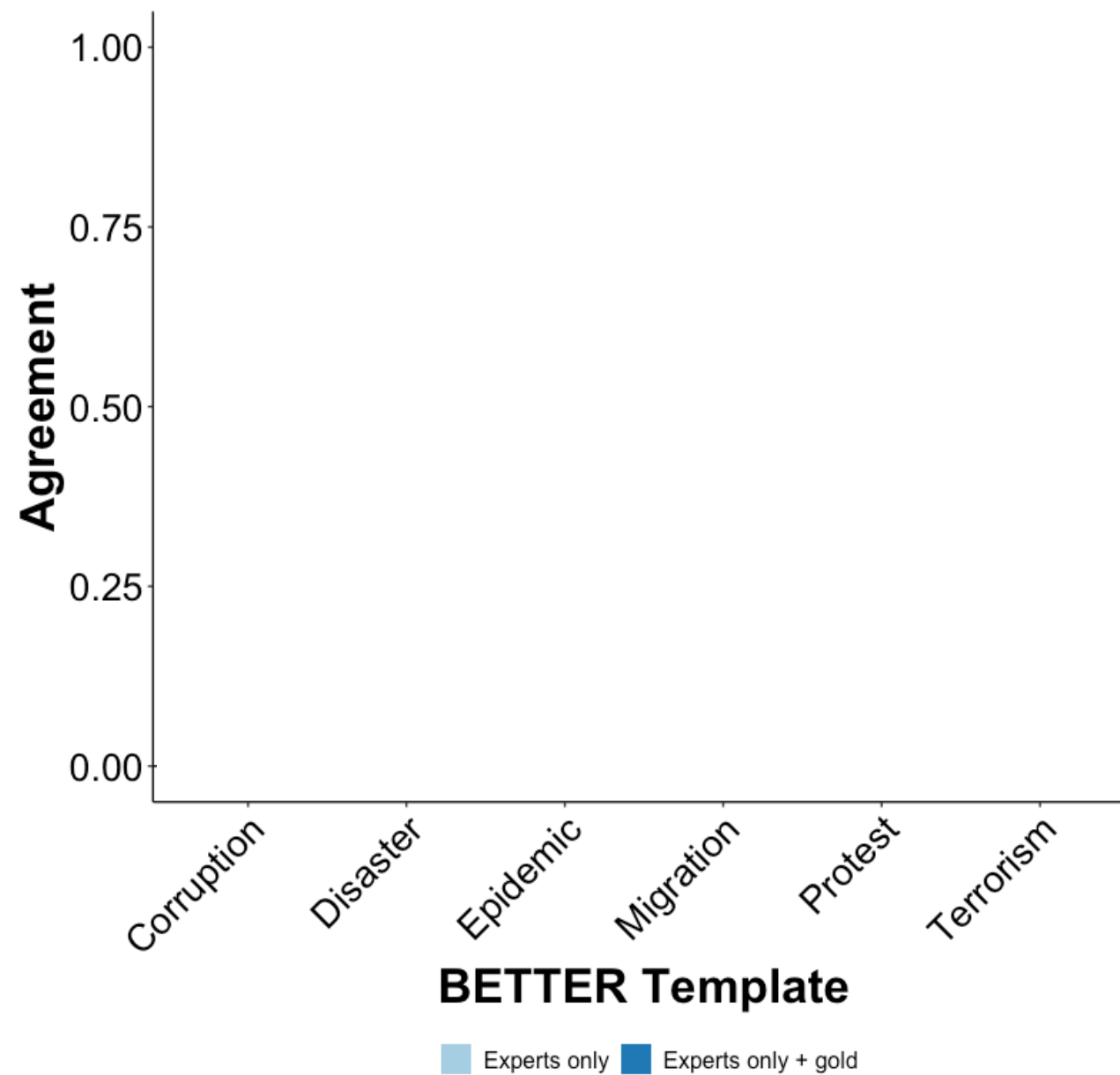
Type: Bombing	Type: Bombing
PerpInd: <i>Guerrillas</i>	PerpInd: <i>Guerrillas</i>
PerpOrg: <i>Tupac Amaru Revolutionary Movement, MRTA</i>	PerpOrg: <i>Tupac Amaru Revolutionary Movement, MRTA</i>
Target: <i>restaurant</i>	Target: <i>restaurant</i>
Victim:	Victim:
Weapon: <i>bomb</i>	Weapon:

Approach

Have three experts reannotate portions of the MUC-4 and BETTER data for number of instances of a template.

Evaluation

Compare agreement among experts annotations and with gold annotation.



Challenge

Difficult for annotators to agree on how many instances of a particular complex situation type are described by text.

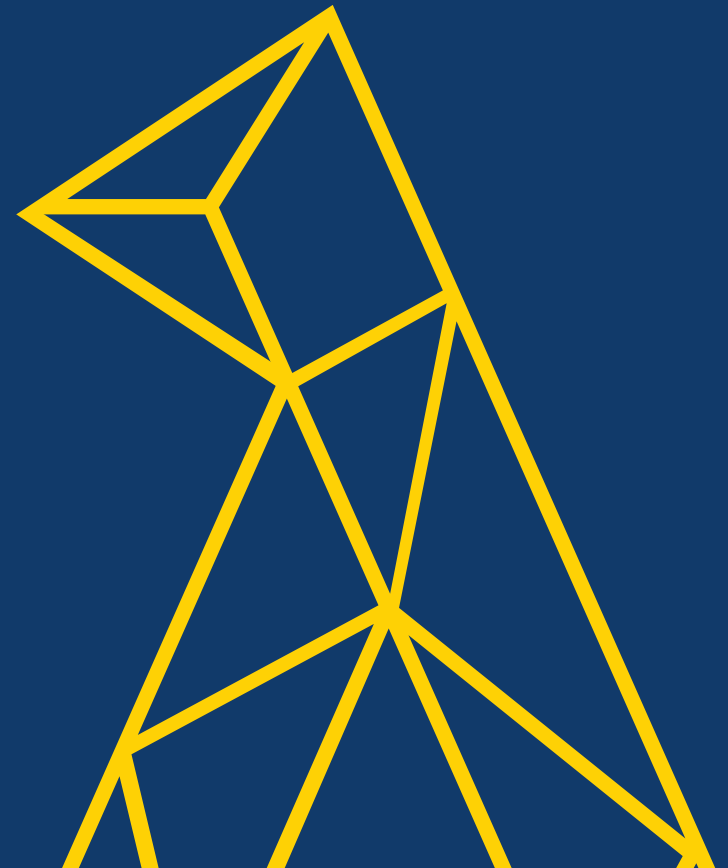
Approach: Cross-doc argument extraction*

Explicitly point to a complex situation description in one document and fill a template for it in another.

*Related to but distinct from similar tasks like Event Linking (Nothman 2012), Cross-Document Event Coreference (Bagga and Baldwin 1999, Cybulska and Vossen 2014, (Eirewetal. 2021,2022), and Predicate-Argument Alignment (Roth and Franke 2012, Wolfe et al. 2013, 2015).

Template Filling

Cross-document argument
extraction



Report

On 16 July 2007 the inquiry was adjourned until 4 September with a final deadline for the submission of evidence of 14 August 2007 . On 11 September 2007 the inquiry was again adjourned until 19 September to allow the Highways Agency to review traffic evidence , with further adjournments until 18 December .

Source

THE public in Tintwistle by Highways Agency wrong . All the inquiry , will now have

The agency told the inquiry , at Stalybridge Civic Hall , it had made a ` significant error ' in its estimation of how much traffic would use the road by underestimating journey times on the A616 trunk road ...

Inspector John Watson , chairing the inquiry , adjourned the hearing ...and said the new evidence should be heard and parties who have already given evidence be allowed to return .

Is the highlighted event in Report mentioned in the Source?

Source Validation

YES

Cross Document Argumentation

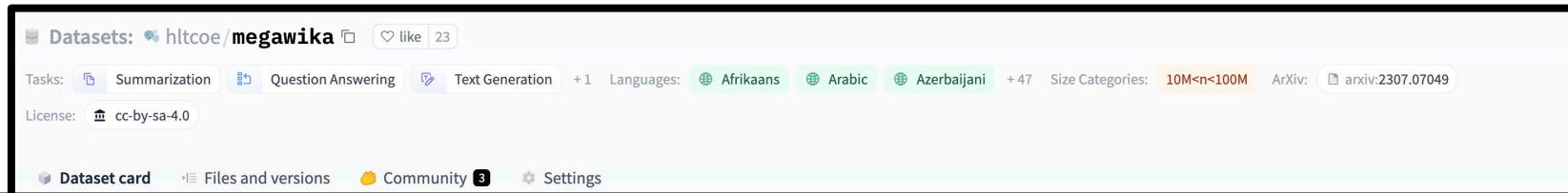
Data available at:
<https://github.com/FACTSlab/FAMuS>

Source

Activity	“the inquiry”	public inquiry into the controversial Mottram - Tintwistle bypass”
Agent	-	“John Watson”
Place	-	“Stalybridge Civic Hall”
Time	“16 July 2007”	“when the Highways Agency admitted it had got its figures wrong”

Base Corpus [Barham et al. 2023](#)

MegaWika: >71 million source-report pairs over 50 diverse languages



Available at

<https://huggingface.co/datasets/hltcoe/megawika>

String lengths		Sequence
Maria Rosa Lida de Malkiel	thumb right 270px Lida María Rosa Lida de Malkiel (Buenos Aires, 7 November 1910-Oakland, 25...	{ "id": ["af-0000-0"], "passage": [{ "text": ["Lida María Rosa Lida de Malkiel (Buenos Aires ,...
Bernard Greenhouse	Bernard Greenhouse (3 Januarie 1916 – 13 Mei 2011) was 'n Amerikaanse tjellis een een van die...	{ "id": ["af-0000-1", "af-0000-2", "af-0000-3", "af-0000-4", "af-0000-5", "af-0000-6", "af-0000-7"...
Isidore Cohen	Isidore Cohen (16 Desember 1922, Brooklyn, New York – 23 Junie 2005, Bronx, New York) was 'n bekende...	{ "id": ["af-0000-13"], "passage": [{ "text": ["Cohen began studying the violin at the age of si...
Colonia Ulpia Traiana	duimnael Die arena van Colonia Ulpia Traiana se amfiteater is gerekonstrueer as deel van die...	{ "id": ["af-0000-14"], "passage": [{ "text": [" External links Archaeological Park Xanten - The...

Homepage: **HuggingFace**

Repository: **HuggingFace**

Paper: **[Coming soon]**

Leaderboard: **[Coming soon]**

Point of Contact: **Samuel Barham**

Size of the auto-converted Parquet files (First 5GB): **3.35 GB**

Number of rows (First 5GB): **131,092**


Article [Talk](#) [Read](#) [Edit](#) [View history](#) [Tools](#)

From Wikipedia, the free encyclopedia

Coordinates: 59°27′56″N 1°59′39″W

The Longendale Bypass (also known as the **A57/A628 Mottram-in-Longendale, Hollingworth & Tintwistle Bypass**) is a long-planned road scheme in England by the **Highways Agency**. The aim is to alleviate traffic congestion on the **A57 road**/**A628 road**/**A616 road** routes that presently pass through the villages. There is both support and opposition for this long-planned scheme which will pass through the valley of **Longendale** and part of the **Peak District National Park**.

The existing **A628 trunk road** connects the **M67 from Manchester to the M1 in South Yorkshire**. A single-carriageway road through the villages of **Mottram in Longsdale, Hollingworth and Tintwistle** and through the **Peak District National Park**, it is used by a relatively large number of **heavy goods vehicles**. Supporters of the scheme say that the A628 is one of the most congested A-road routes in the country, with high volumes of traffic (including HGVs) using a road which is totally unsuitable for the volume and nature of traffic it carries^[1] and that there is no viable alternative to a bypass.^[2] A survey in 2010 found that the junction of the A57 and M67 was the most congested in Manchester.^[3]



The A57 in Mottram would have



The A57 in Meltham would have 62



The road would have run through Holyback Quarry, Tinbuckle



A map showing the proposed route 67

The scheme envisaged a new dual carriageway that would have headed north-east from the eastern end of the M67, passed under the A6018 Roe Cross Road, Old Road and Old Hall Lane in a 170-metre (558 ft) tunnel approximately 120 metres (394 ft) north of the point where those roads converge. To the east of this area the route would have continued onto a roundabout which provides for a link road to the A57 at Mottram Moor. To the east of the roundabout, the preferred route would have proceeded north-east through the Swallows Wood nature reserve, then curved south-east to join the existing A628 east of Tintistle near Townhead Farm. Another proposed local authority road, the 'Glossop Spur', would have linked to the A57 at Woolley Bridge. ^[6]

The Department for Transport published both a map of the immediate area^[6] and another showing routes across the Peak District and the location of Flouch,^[7] which were scheduled to have associated traffic works. An independently produced overlay for Google maps is also available.^[8]

See also: [Road protest \(UK\)](#)

Since 1971 residents of Tameside have been working and lobbying, with local politicians, for a better solution for the A57/A628 connection of Manchester and Sheffield to the M67 – passing through villages of Mottram and Hollingworth, as well as affecting those around it. The plans were restored in the [Conservative](#) government's [Roads for Prosperity](#) white paper in 1989 following a public consultation process. A preferred route was selected in October 1993 but work was suspended in 1996 following further government reviews of the national road-building programme work. In December 2014 the scheme was approved.

In July 1998 the incumbent Labour government published the results of its own review in the document *A New Deal for Trunk Roads in England*^[9] and included the bypass as a scheme to be progressed through the preparatory stages. In November 2002, the Highways Agency submitted a report to the regional planning bodies (North West, East Midlands, Yorkshire and the Humber). The scheme received support from the communities affected by the bypass in the form of a petition with 9,000 signatures that was delivered to Downing Street in February 2003.^[10] In this submission, they formed the conclusion that there were no realistic alternatives to a bypass of the villages to solve the problems that existed. In April 2003 the bypass entered the Targeted Programme of Improvements, recognising the likelihood of increased traffic along the route and including proposals to discourage road users from switching from other cross-Pennine routes.^[10]

Under the **Early Contractor Involvement** (ECI) initiative the Highways Agency appointed **Mowlem** to take the scheme forward. The ECI allows for detailed planning work to be carried out while the scheme moves through statutory procedures.^[11] On 31 January 2006 the **Secretary of State for Transport** published formal proposals in the form of Draft Orders to construct the bypass, make good the older roads, and introduce 'route restraint measures'. The public and other interested organisations were allowed a period of 13 weeks until 5 May 2006 to express their opinions on the proposals.^[12] In May 2006 the Highways Agency released information under the **Freedom of Information Act** of all properties they had purchased in connection with the scheme during the previous 30 years.^[13] and an updated copy was also released in August 2006.^[14]

By the end of the consultation period, 1,400 people had written letters expressing their objection to the scheme, with a further 1,000 in favour. [Stephen Ladyman](#), then Minister of State for Transport, stated that “life for people in Mottram, Twinstile and Hollingsworth should be greatly improved by this bypass. Getting traffic out of the villages will make them a safer and healthier place to live”.^[4] Objections were also received from the [Countryside Agency](#), [English Nature](#), the [Peak District National Park Authority](#) and the [National Trust](#).^[5] The [North West Regional Assembly](#) had presented advice to ministers in January 2006 and then in June 2006 provided a revised sequencing of priority schemes.^[6]

On 6 July 2006 the Secretary of State for Transport responded to these revised sequences and confirmed that funding provision could be made for the Longdendale bypass beyond 2010/11.^[141] In December 2006 Rebecca Lush, a long-standing road protester and founder of Road Block, claimed the scheme was "particularly inappropriate and damaging".^[142] In January 2007 Stephen Ladyman stated that construction work was expected to start in spring 2013.^[143]

The change to the proposed timing and costs required a review of the environmental statement, which was duly republished with associated draft orders on 8 February 2007. There followed a six-week consultation period during which the Peak District authority responded.^[18] Having been estimated at £90 million in 2003,^[9] the cost of the proposal was estimated to have risen to £240-£315m in 2008.^[19]

On 2 December 2014, the government announced that it will be investing £170m on the A57, A628 and A628 trans-Pennine route, including a bypass for the village of Mottram.^[30] The Chancellor of the Exchequer, George Osborne, has given the go-ahead for an initial scheme of at least £170 million to resolve the traffic issue through Mottram and to build a link road to Glossop. The government will also consult on whether to extend the proposed scheme to relieve pressure on Tintwistle as well. In addition to the works announced, there are also studies and proposals into the possibility of a tunnel under the Peak District to link Manchester with Sheffield, with some of the proposed tunnel routes using the existing M67 route to link the M60 and M1 motorways.^{[31][32]}

Plans for a dual-carriageway bypass taking a different route were displayed in 2020. At that time, it was stated work would begin in 2023. The plans were priced at £228 million [23].

Further information: [Public inquiry](#)

Details of the public inquiry were announced in April 2007.^[24] It was to be run by Persona Associates with John Watson as inspector.^[24] An official public inquiry website^[25] was launched offering news, transcripts and documentation for download.

The inquiry opened on 26 June 2007.^[24] On 16 July 2007 the inquiry was adjourned until 4 September with a final deadline for the submission of evidence of 14 August 2007.^[24] On 11 September 2007 the inquiry was again adjourned until 19 September to allow the Highways Agency to review traffic evidence,^[26] with further adjournments until 18 December.^{[24][27]}

On 4 December 2007 the Highways Agency published *Route Restriction Measures – Explanation of the Further Change in the Traffic Forecasts* and suggested that this data would not be available until Easter 2008.^[26] The inquiry reviewed this new information on 18 December 2007 at which time it was adjourned to allow the Highways Agency to correct their traffic modelling. The inspector commented that "it was the fifth iteration of the traffic model since the original announcement in February 2006". The inquiry was then "Adjourned Indefinitely Pending the Publication of Revised Evidence by The Highways Agency and Thameside MBC".^[24]

On 3 March 2008 the Highways Agency responded to queries from the inspector indicating that it expected to have revised evidence available by October 2008.^[29]

In September 2008 the Highways Agency indicated that the revised information would now be available for public consultation in May 2009 and that the public inquiry could start again in Autumn 2009.^[30]

In February 2009 the [Campaign for Better Transport](#) reported that funding for the road scheme would not be available before 2016.^[31] In March 2009 the Highways Agency announced that it was pulling out of the public inquiry, citing the decision of the [Regional Leaders' Forum, 4NW](#), to delay the start of the scheme by at least four years. The accompanying press release stated that "the extended period of time between the publication of the draft proposals for the scheme in 2007 and the earliest date at which the Inquiry might be reconvened" was a further factor in the decision to withdraw.^[32]

Read Edit View history Tools ▾

Coordinates: 53°27'56"N 1°59'59"W

The **Longdendale Bypass** (also known as the **A57/A628 Mottram-in-Longdendale, Hollingworth & Tintwistle Bypass**) is a long-planned road scheme in England by the [Highways Agency](#). The aim is to alleviate traffic congestion on the [A57 road/A628 road/A616 road](#) routes that presently pass through the villages. There is both support and opposition for this long-planned scheme which will pass through the valley of [Longdendale](#) and part of the [Peak District National Park](#).

Further information: [Public inquiry](#)

Details of the public inquiry were announced in April 2007.^[24] It was to be run by Persona Associates with John Watson as Inspector.^[24] An official public inquiry website^[25] was launched offering news, transcripts and documentation for download.

The inquiry opened on 26 June 2007.^[24] On 16 July 2007 the inquiry was adjourned until 4 September with a final deadline for the submission of evidence of 14 August 2007.^[24] On 11 September 2007 the inquiry was again adjourned until 19 September to allow the Highways Agency to review traffic evidence.^[26] with further adjournments until 18 December.^{[24][27]}

On 4 December 2007 the Highways Agency published *Route Restraint Measures – Explanation of the Further Change in the Traffic Forecasts* and suggested that this data would not be available until Easter 2008.^[28] The inquiry reviewed this new information on 18 December 2007 at which time it was adjourned to allow the Highways Agency to correct their traffic modelling. The inspector commented that "it was the fifth iteration of the traffic model since the original announcement in February 2006". The inquiry was then "Adjourned Indefinitely Pending the Publication of Revised Evidence by The Highways Agency and Tameside MBC".^[24]

Manchester
Evening News

NEWS ▾ IN YOUR AREA MAN UTD MAN CITY WHAT'S ON ▾ SPORT ▾ MORE ▾

BUY A PAPER JOBS VOUCHER CODES ADVERTISE WITH US DIRECTORY FUNERAL NOTICES MARKETPLACE DATING BOOK AN AD PUBLIC NOTICES NEWSLETTER SIGNUP

f

Twitter

Instagram

Q

M

News ▸ Greater Manchester News

Inquiry into bypass halted

THE public inquiry into the controversial Mottram-Tintwistle bypass was dramatically halted when the Highways Agency admitted it had got its figures wrong. All the traffic evidence it has put before the inquiry, which has been running since June, will now have to be reviewed.

Barham et al. 2023

Corpus [Barham et al. 2023](#)

MegaWika: >71 million source-report pairs over 50 diverse languages

Ontology

FrameNet as the underlying event ontology for broad-coverage of situation types (events, states, processes).

*Related to but distinct from similar tasks like Event Linking (Nothman 2012), Cross-Document Event Coreference (Bagga and Baldwin 1999, Cybulska and Vossen 2014, (Eirewetal.,2021,2022), and Predicate-Argument Alignment (Roth and Franke 2012, Wolfe et al. 2013, 2015).

Select Event Type:

Does the Source Text contain the exact same event highlighted in the Passage Text?

Your Answer for Event Type:

Event Definition:

The words in this frame describe situations in which a Perpetrator carries off and holds the Victim against his or her will by force. "

'Two men kidnapped a Millwall soccer club employee, police said last night.'

Event Example: Two men **kidnapped** a Millwall soccer club employee, police said last night.

Description Following the events of the first Super Chinese World game , the world has been saved and Rub -A-Doc has invited the leaders of the world , including the Emperor Chin of Chinaland to a galactic peace conference . However the conference is disrupted when alien invaders capture all members of the peace conference and declare themselves rulers of the galaxy . To back up this claim , the invaders

Source Validation

255 situation types from FrameNet

- **5 positive source validation (SV)** examples for each event type
- **5 negative source validation (SV)** examples for each event type

Select Event Type: Preventing_or_letting Abandonment **Kidnapping** Theft

Self_motion Piracy

Active Event Type: **Kidnapping**

Event Definition:

The words in this frame describe situations in which a Perpetrator carries off and holds the Victim against his or her will by force. " 'Two men kidnapped a Millwall soccer club employee, police said last night.'

Event Example: Two men kidnapped a Millwall soccer club employee, police said last night.

Passage Text Source Text

has been saved and has ... A Doo has invited the leaders of the world , including the Emperor Chin of Chinaland to a galactic peace conference . However the conference is disrupted when alien invaders capture all members of the peace conference and declare themselves rulers of the galaxy . To back up this claim , the invaders have assigned several champions as lieutenants . Hearing that things are once again in trouble , ninja warriors Ryu and Jack quickly enlist the help of the people of Futureland to build a spaceship and attack one of the champions .

Active Role: **Victim** Answer: all members of the peace conference Add Role ▾

Roles: Perpetrator **Victim** Time Place previous role next role

Role Definition: The Victim is the person who is carried off and held against his/her will.

Cross-Document Argument Extraction

For each positive source validation, annotate roles in report and source.

<https://staramus.github.io/>

Search Datasets

Clemency

Search In:

Frames

Document Text

Roles

Summaries

Show only examples with SEAMuS summaries

SEARCH

BROWSE FRAMES

← Back to Search Results

Clemency

DEFINITION

An

Executive authority

 exercises their power to reduce or remove negative consequences for someone who has been labeled an

Offender

 who participated in an

Crime

 .

ANCESTORS

Intentionally_act

Event

DESCENDANTS (2)

Pardon

Pardon

SEAMuS Report Summary

During a 2015 visit to King Salman of

Saudi Arabia

 , Gabriel tried to persuade

Saudi authorities

 to free

imprisoned writer Raif Badawi

 and to grant him clemency .

SEAMuS Combined Summary

During a 2015 visit , Sigmar Gabriel tried to persuade

Saudi authorities

Saudi authorities

 including

King Salman

 to grant

Raif Badawi

 clemency for

insulting Islam through electronic channels

 .

Report

During a 2015 visit to King Salman of

Saudi Arabia

 , Gabriel launched an unusual public effort to persuade

Saudi authorities

 to free

imprisoned writer Raif Badawi

 and grant him

clemency

 , amplifying Germany 's political voice in a region in which its influence had largely been limited to economic issues in years past . He had been urged by MPs and human rights organizations to take up Badawi 's case before his trip . Blogger lashing : Saudi rejects criticism of Badawi case BBC News , 8 March 2015 .

Source

Blogger lashing : Saudi rejects criticism of Badawi case - Published Saudi Arabia has expressed " surprise and dismay " at international media reports criticising the flogging of a Saudi blogger for

insulting Islam

 . In its first official statement on the case the foreign ministry said it rejected any interference in its internal affairs .

Raif Badawi

 was sentenced to 1,000 lashes and 10 years in jail last year . He received the first 50 lashes in January prompting strong criticism of Saudi Arabia 's human rights record . The foreign ministry said it could not accept any impingement on the country 's sovereignty , or on the impartiality of its judiciary system . " The kingdom unequivocally rejects any aggression under the pretext of human rights , " it added . Mr Badawi 's case has prompted international protests and was raised by several governments . Germany 's economic affairs minister and vice - chancellor , Sigmar Gabriel , currently on a visit to

Saudi Arabia

 , was urged by MPs and human rights organisations to take up Mr Badawi 's case while in Riyadh . Before going into a meeting with

King Salman

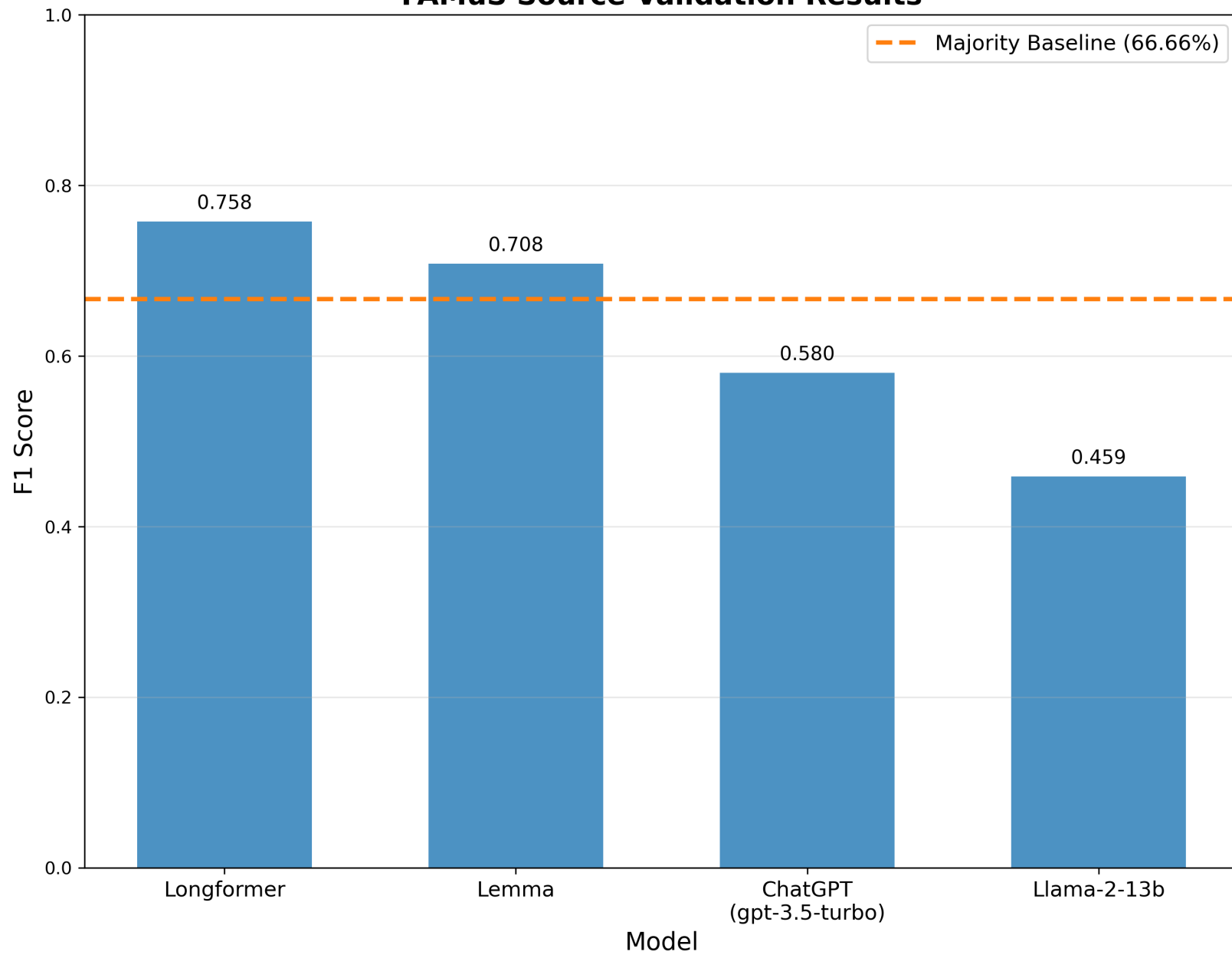
 , Mr Gabriel said " the harshness of this sentence , especially the corporal punishment , is something unimaginable for us and of course it weighs on our relations " . Mr Badawi's 1,000 lashes were scheduled to be administered over 20 weeks . He received his first 50 lashes outside a



Baselines: Source Validation

1. Lemma: target lemma is found in the source.
2. Longformer: document pair classifier
3. ChatGPT: prompt-based

FAMuS Source Validation Results



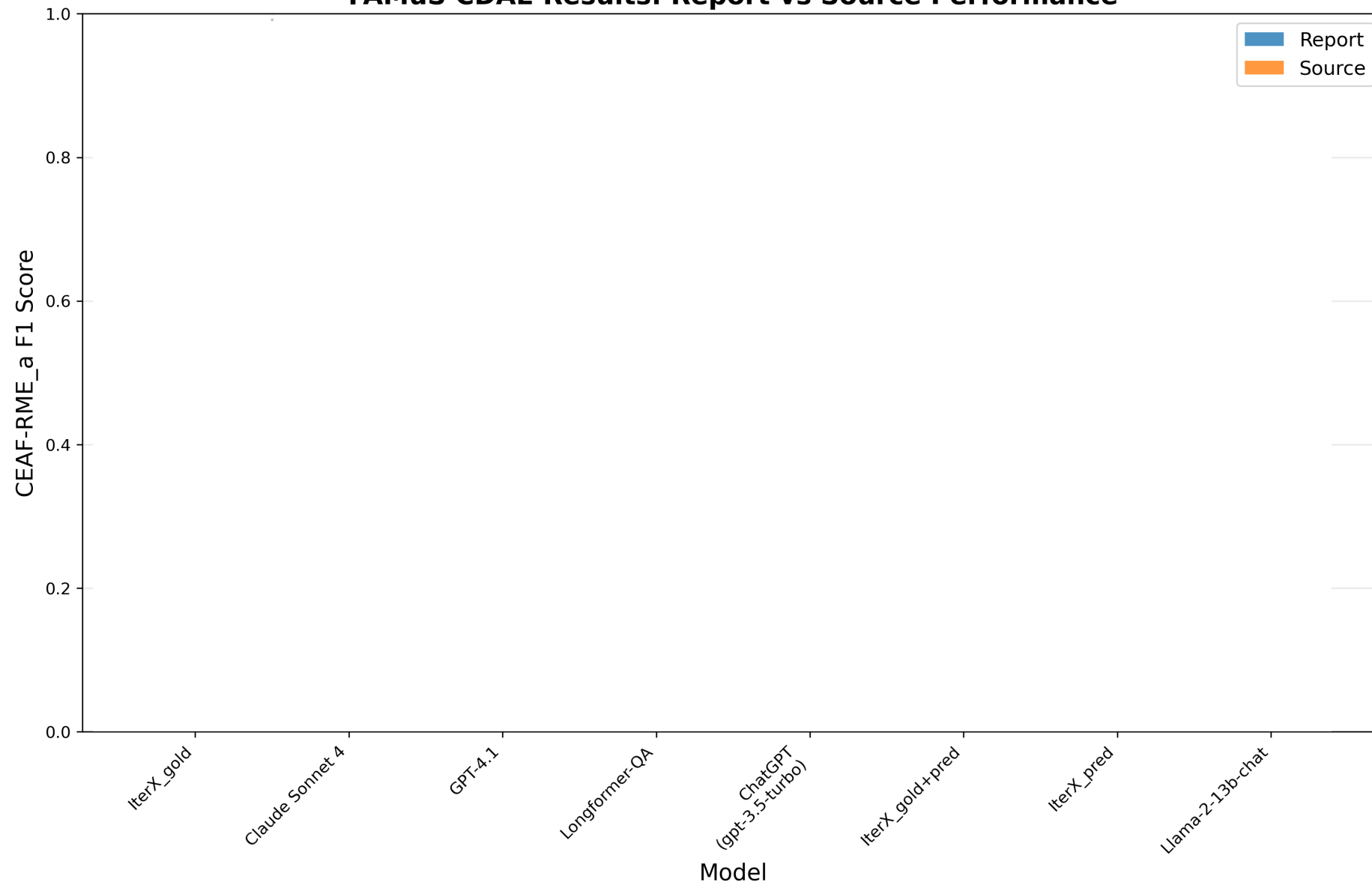
Baselines: Source Validation

1. Lemma: target lemma is found in the source.
2. Longformer: document pair classifier
3. ChatGPT: prompt-based

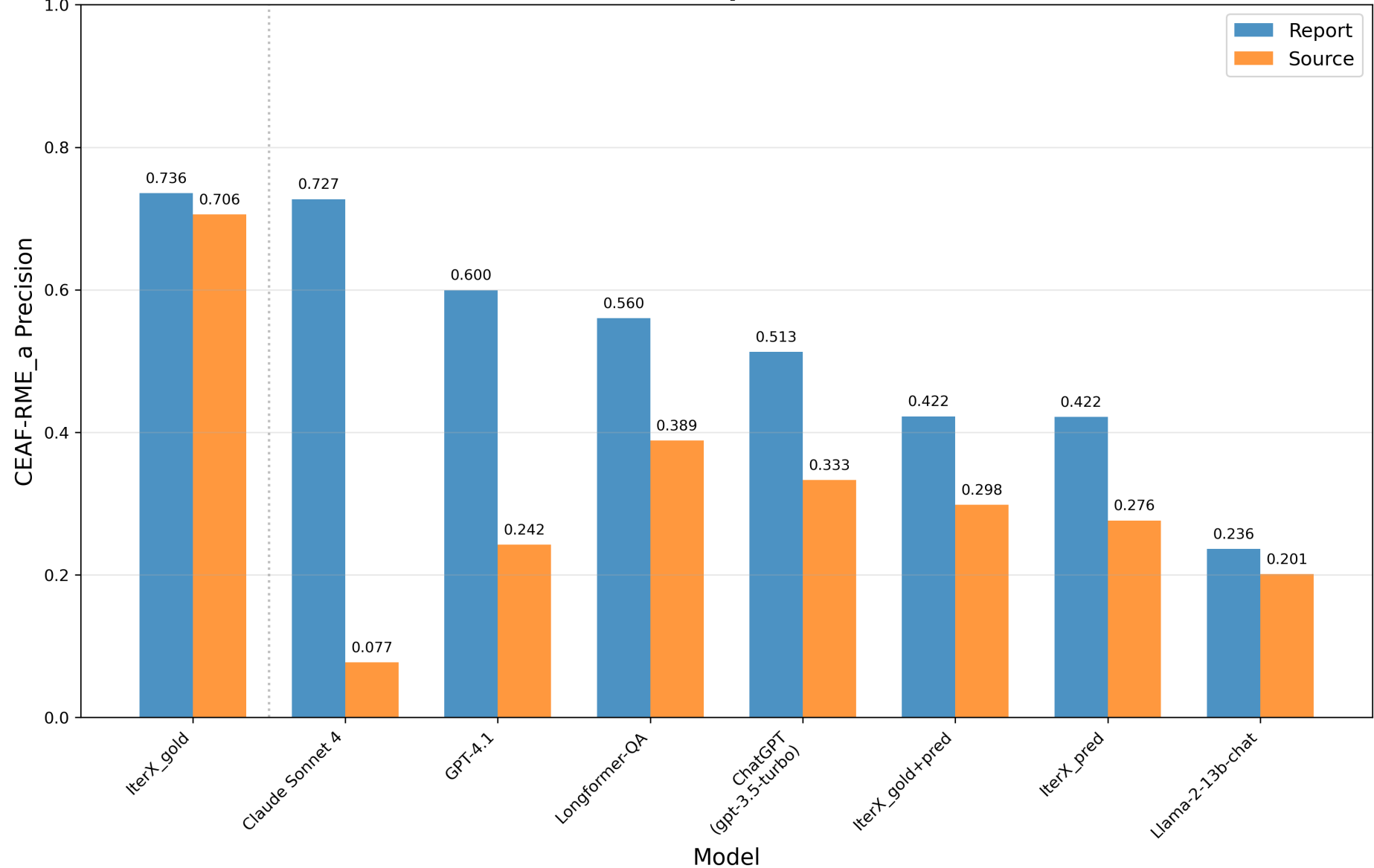
Baselines: Cross-Doc Argument Extraction

1. Report: ignore the source and use spans from report
2. IterX: structured prediction model
3. Longformer-QA: fine-tuned QA model
4. ChatGPT and Llama2: few-shot prompting models

FAMuS CDAE Results: Report vs Source Performance

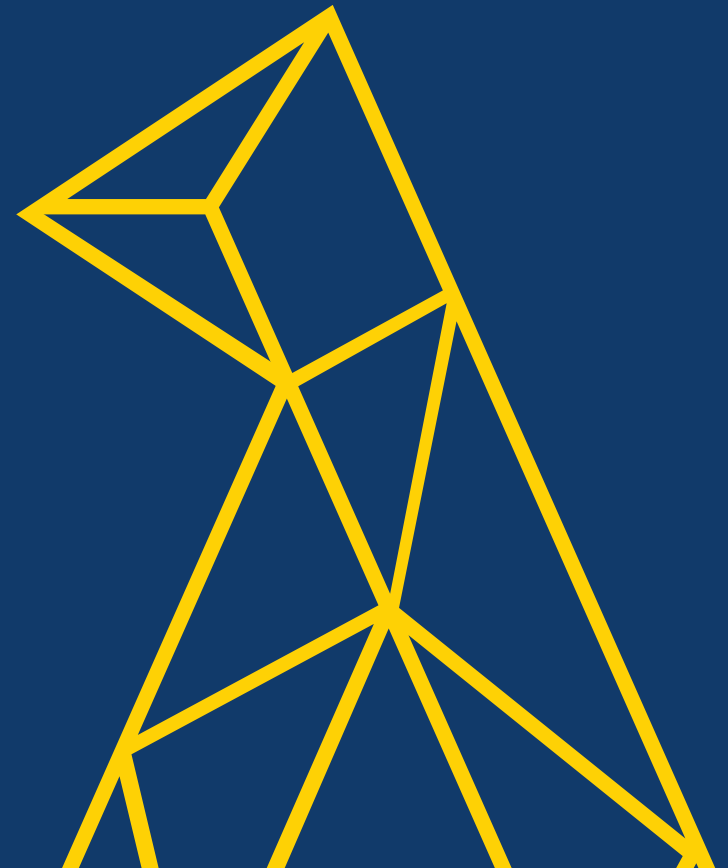


FAMuS CDAE Results: Report vs Source Precision



Template Filling

Interim Discussion



Finding #1

We can do broad-coverage template extraction on short documents (e.g. Wikipedia snippets) reasonably well.

Finding #2

Long-document, broad-coverage template extraction is still very hard and the better you are at short documents, the worse you are on long ones.

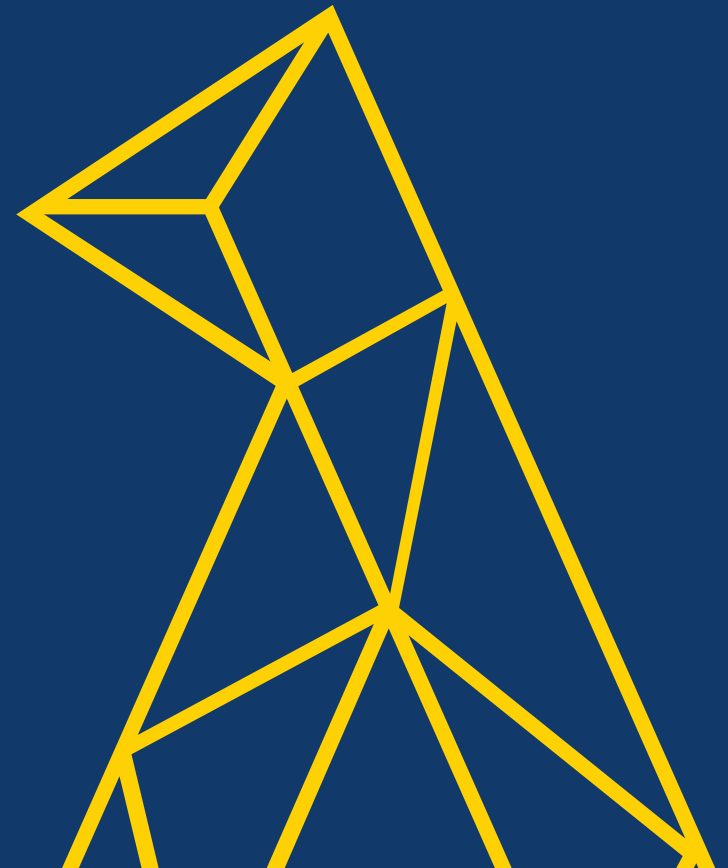
Challenge

Inferences are interesting and specific but lack sensitivity to the context of the situation description.

Idea

Generate an inference that captures the information captured by the template in a more context-sensitive way.

Event-Keyed Summarization



Goal

Leverage source-report relations to draw an inference capturing all available information relative to a template.

Idea

The template—in this case, a complex event type—is a complex query that guides inference.

Instructions

Select Event Type: **Emotions_success_or_failure**

Active Event Type: **Emotions_success_or_failure**

Event Definition:

A Topic or Stimulus fails or succeeds at causing an emotion in an Experiencer, which is conveyed by an Expressor or manifested in a State or description of an Event.

Event Example: They were **dissatisfied** with the arrangements.

[Click here to know more details about the "Emotions_success_or_failure" Event Type](#)

Report Summary

On October 26 , an immigration tribunal stated that it was " satisfied that the appellant has engaged in the unacceptable behaviour of fostering hatred , " which it said could lead to intercommunity violence in the UK

Combined Summary

Enter your combined source-report summary here!

Unique ID: EN-4992-441-frame-Emotions_success_or_failure

Report Text

Source Text

On **October 26** , an immigration tribunal concluded that May had been justified in her position . The tribunal stated that it is " **satisfied** that the appellant has engaged in the unacceptable behaviour of fostering hatred which might lead to intercommunity violence in the UK . "

Active Role: **Time** Answer: **October 26**

Add Role ▾

Roles: **Experiencer**

Topic

Stimulus

Expressor

State

Event

Time

previous role

next role

Role Definition: The Time when the Experiencer, Expressor, Event, or State can be described as having said emotion.

Valid Candidates in Report

(1) October 26

(2) On October 26

No candidate found for the current role

Event: Clemency

■ : Executive_Authority ■ : Offender ■ : Crime ■ : Time ■ : Place

Report Summary

During a 2015 visit to **King Salman** of **Saudi Arabia**, Gabriel tried to persuade **Saudi authorities** to free **imprisoned writer Raif Badawi** and to grant him clemency.

Cross-Document Summary

During a 2015 visit, Sigmar Gabriel tried to persuade **Saudi authorities**, including **King Salman**, to grant **Raif Badawi** clemency for **insulting Islam through electronic channels**.

Data available at:

<https://github.com/wgantt/SEAMuS>

Sigmar

...During
Salma
launch
persua

imprisoned writer Raif Badawi and grant him clemency, amplifying Germany's political voice in a region in which its influence had largely been limited to economic issues in years past. He had been urged by MPs and human rights organizations to take up Badawi's case before his trip...

has prompted international protests and was raised by several governments. Germany's economic affairs minister and vice-chancellor, Sigmar Gabriel, currently on a visit to Saudi Arabia, was urged by MPs and human rights organisations to take up Mr Badawi's case while in Riyadh. Before going into a meeting with **King Salman**, Mr Gabriel said "the harshness of this sentence, especially the corporal punishment, is something unimaginable for us and of weighs on our relations"....

Mr Badawi established the Liberal Saudi Network, a now-closed online forum that soug encourage debate on religious and political matters in 2008. In 2012, he was arrested and charged with "**insulting Islam through electronic channels**"....



<https://star-mus.github.io/>

Search Datasets

Clemency

Search In:

Frames

Document Text

Roles

Summaries

☐ Show only examples with SEAMuS summaries

SEARCH

BROWSE FRAMES

← Back to Search Results

Clemency

DEFINITION

An

Executive authority

 exercises their power to reduce or remove negative consequences for someone who has been labeled an

Offender

 who participated in an

Crime

.

ANCESTORS

Intentionally_act

Event

DESCENDANTS (2)

Pardon

Pardon

SEAMuS Report Summary

During a 2015 visit to King Salman of

Saudi Arabia

, Gabriel tried to persuade

Saudi authorities

 to free

imprisoned writer Raif Badawi

 and to grant him clemency.

SEAMuS Combined Summary

During a 2015 visit, Sigmar Gabriel tried to persuade

Saudi authorities

Saudi authorities

 including

King Salman

 to grant

Raif Badawi

 clemency for

insulting Islam through electronic channels

.

Report

During a 2015 visit to King Salman of

Saudi Arabia

, Gabriel launched an unusual public effort to persuade

Saudi authorities

 to free

imprisoned writer Raif Badawi

 and grant him

clemency

, amplifying Germany 's political voice in a region in which its influence had largely been limited to economic issues in years past . He had been urged by MPs and human rights organizations to take up Badawi 's case before his trip . Blogger lashing : Saudi rejects criticism of Badawi case BBC News , 8 March 2015 .

Source

Blogger lashing : Saudi rejects criticism of Badawi case - Published Saudi Arabia has expressed " surprise and dismay " at international media reports criticising the flogging of a Saudi blogger for

insulting Islam

 . In its first official statement on the case the foreign ministry said it rejected any interference in its internal affairs .

Raif Badawi

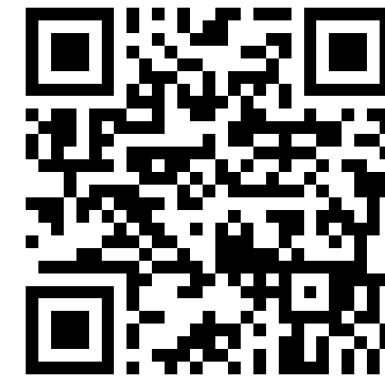
 was sentenced to 1,000 lashes and 10 years in jail last year . He received the first 50 lashes in January prompting strong criticism of Saudi Arabia 's human rights record . The foreign ministry said it could not accept any impingement on the country 's sovereignty , or on the impartiality of its judiciary system . " The kingdom unequivocally rejects any aggression under the pretext of human rights , " it added . Mr Badawi 's case has prompted international protests and was raised by several governments . Germany 's economic affairs minister and vice - chancellor , Sigmar Gabriel , currently on a visit to

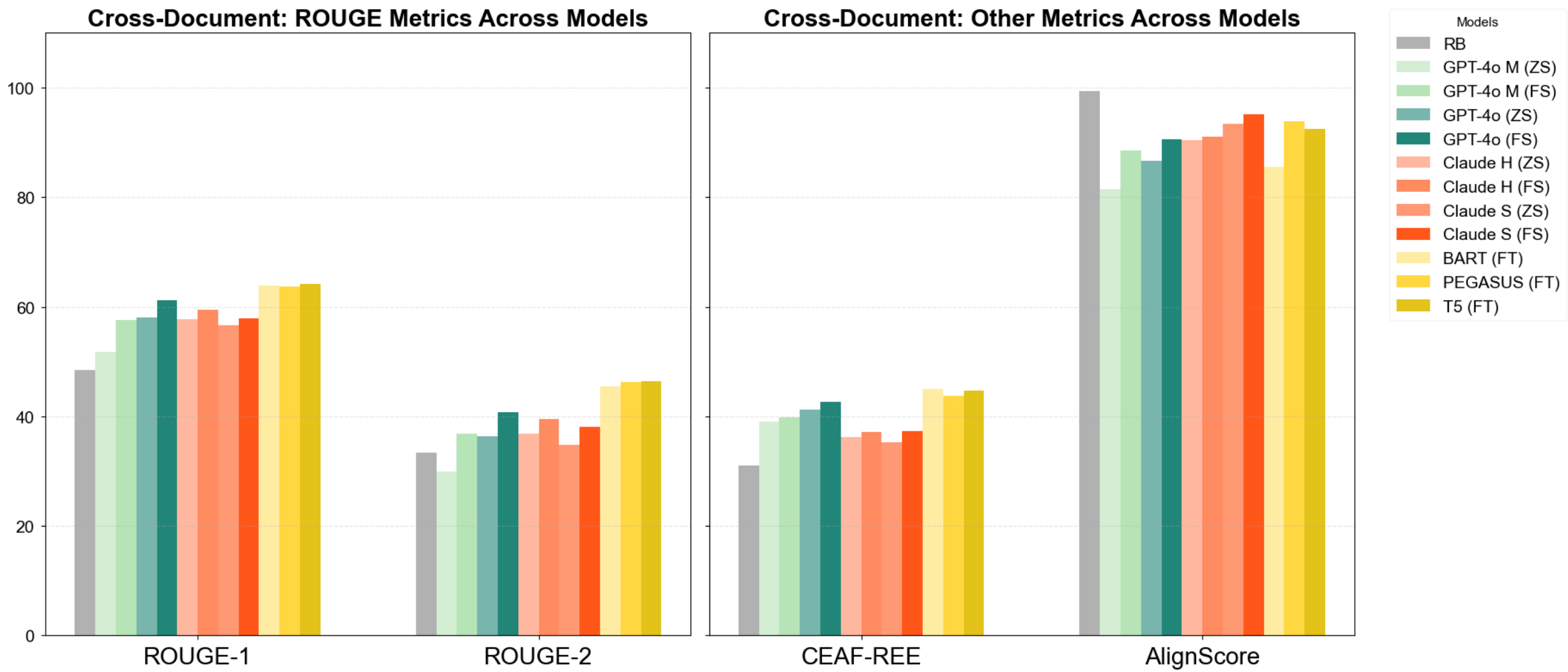
Saudi Arabia

 , was urged by MPs and human rights organisations to take up Mr Badawi 's case while in Riyadh . Before going into a meeting with

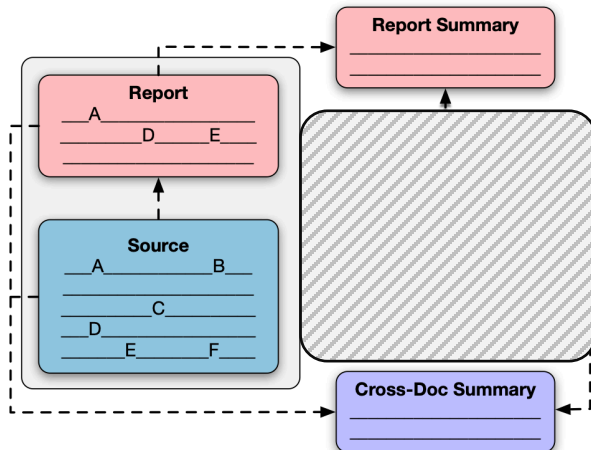
King Salman

 , Mr Gabriel said " the harshness of this sentence , especially the corporal punishment , is something unimaginable for us and of course it weighs on our relations " . Mr Badawi's 1,000 lashes were scheduled to be administered over 20 weeks . He received his first 50 lashes outside a

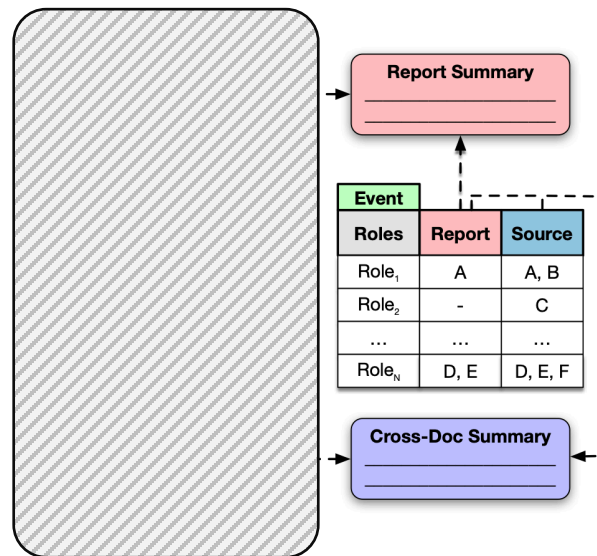




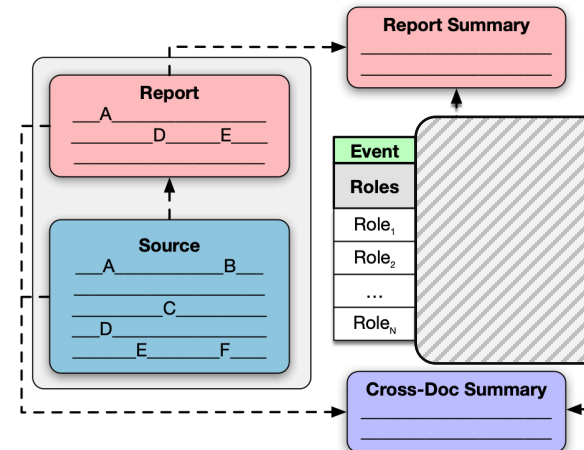
Text only: *only texts*



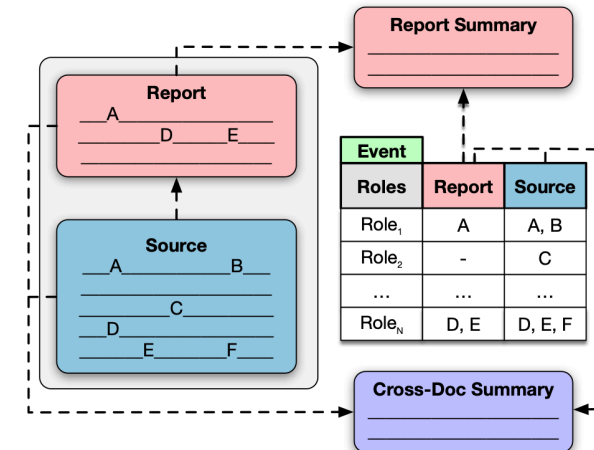
Event only: *only event
argument annotations*



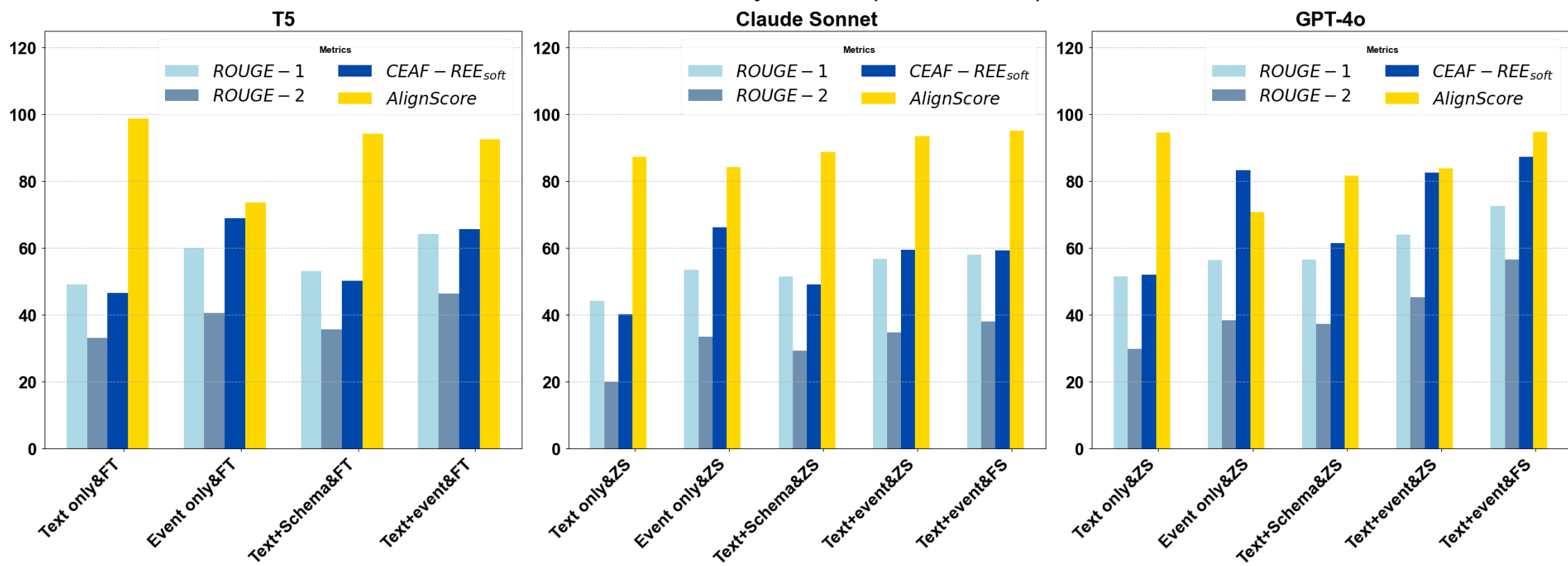
Text + Schema: *only texts,
name of the event per text,
and corresponding roles*



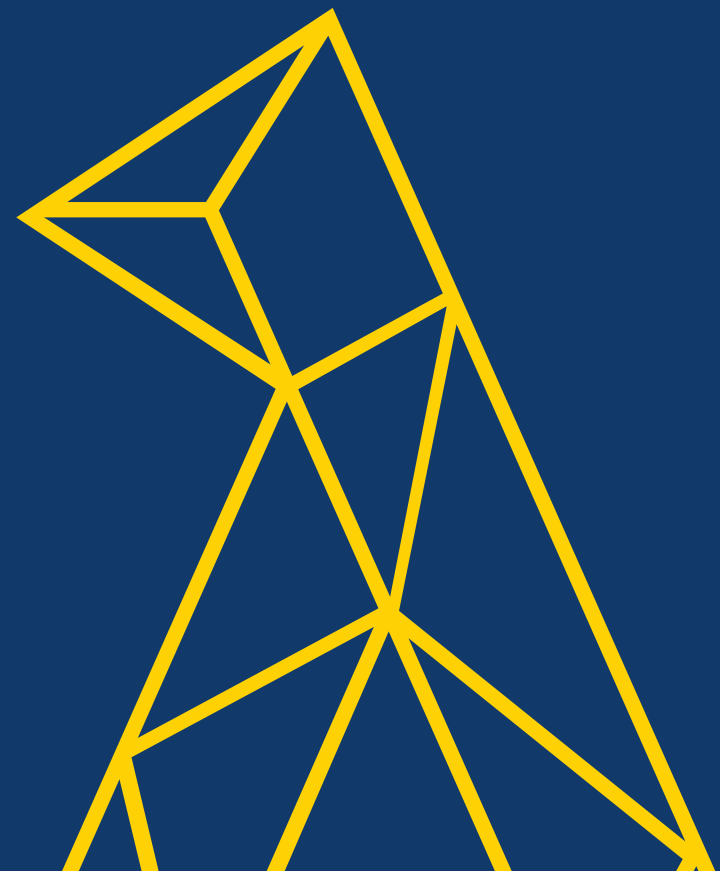
Text + Event: *unablated
setting*



Performance Metrics by Condition (cross-document)



Conclusion



Question

How do we design systems that capture the inferences we draw about situations based on their descriptions?

Ontology-factored approach

Map situation description to symbolic situation ontology and draw inferences using rules stated over that ontology.

Challenge #1: Expense

Ontologies and annotated corpora are expensive to build and maintain because they require highly trained experts.

Challenge #2: Brittleness

Ontologies do not easily capture the ways in which context modulates the inferences that we draw.

Question

How do we design systems that capture the inferences we draw about situations based on their descriptions?

Ontology-factored approach

Map situation description to symbolic situation ontology and draw inferences using rules stated over that ontology.

Ontology-free approach

Map situation descriptions to natural language strings expressing the inferences of interest.

Ontologies as Representational Scaffolding

1. Ontologies provide guidance about what the interesting inferences are.
2. These inferences are directly associated with a text, as in ontology-free approaches.

Thanks!

Supported by NSF-BCS-2040831 (*Computational Modeling of the Internal Structure of Events*), University of Rochester, JHU HLTCOE, DARPA AIDA, DARPA KAIROS, and IARPA BETTER.



Kyle Rawlins
JHU



Ben Van Durme
JHU



Jordan Boyd-Graber
UMD College Park



Rachel Rudinger
UMD College Park



Lelia Glass
Georgia Tech



Anqi Liu
JHU



Kevn Duh
JHU



Sid Vashishtha
DeepMind



Will Walden
JHU



Yunmo Chen
JHU



Sam Barham
JHU



Mahsa Yarmohammadi
JHU



Kenton Murray
JHU



Reno Kriz
JHU



Arsal Imtiaz
Everlaw



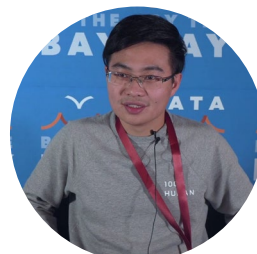
Chandrashekar Nair
Everlaw



Alex Martin
JHU



Weiwei Gu
ASU



Tongfei Chen
Microsoft



Venkat Govindarajan
Ithaca College



Dee Ann Reisinger
Bryn Mawr



Pushprendre Rastogi
DeepMind



Elias Stengel-Eskin
UT Austin



Sheng Zhang
Microsoft



Zhengping Jiang
JHU



Orion Weller
JHU



Michelle Yuan
UMD College Park



Adam Poliak
Barnard