IREvent2Story: A Novel Mediation Ontology and Narrative Generation.

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Text2StoryIR'18 Workshop

Mediation

Jacob Bercovitch

A process of conflict management, related to but distinct from the parties' own negotiations, where those in conflict seek the assistance of, or accept an offer of help from, an outsider (whether an individual, an organization, a group, or a state) to change their perceptions or behaviour, and do so without resorting to physical force or invoking the authority of law.

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Why new Mediation Ontology?

- Problems:
  - Too many classes (250+).
  - Overlap in mappings from verbs to classes in their verb dictionaries.
  - Need for new perspectives for International Relations.

Inspired from the concept of Social Agents

The Ontology of Persons by Mark H. Bichard

Persons, so I argue, are special kinds of agents that arise in and are constituted in interactions with social and cultural processes, including other social persons, and thereby co-constitute the emergence base for those social and cultural realities.

In this model, agents are constituted in their interactive dynamics; such interactive dynamics is their ontology.

Agents that develop to become participants, thus constitutive participants, in those environments are themselves, therefore, emergent kinds of agents — social agents:persons.

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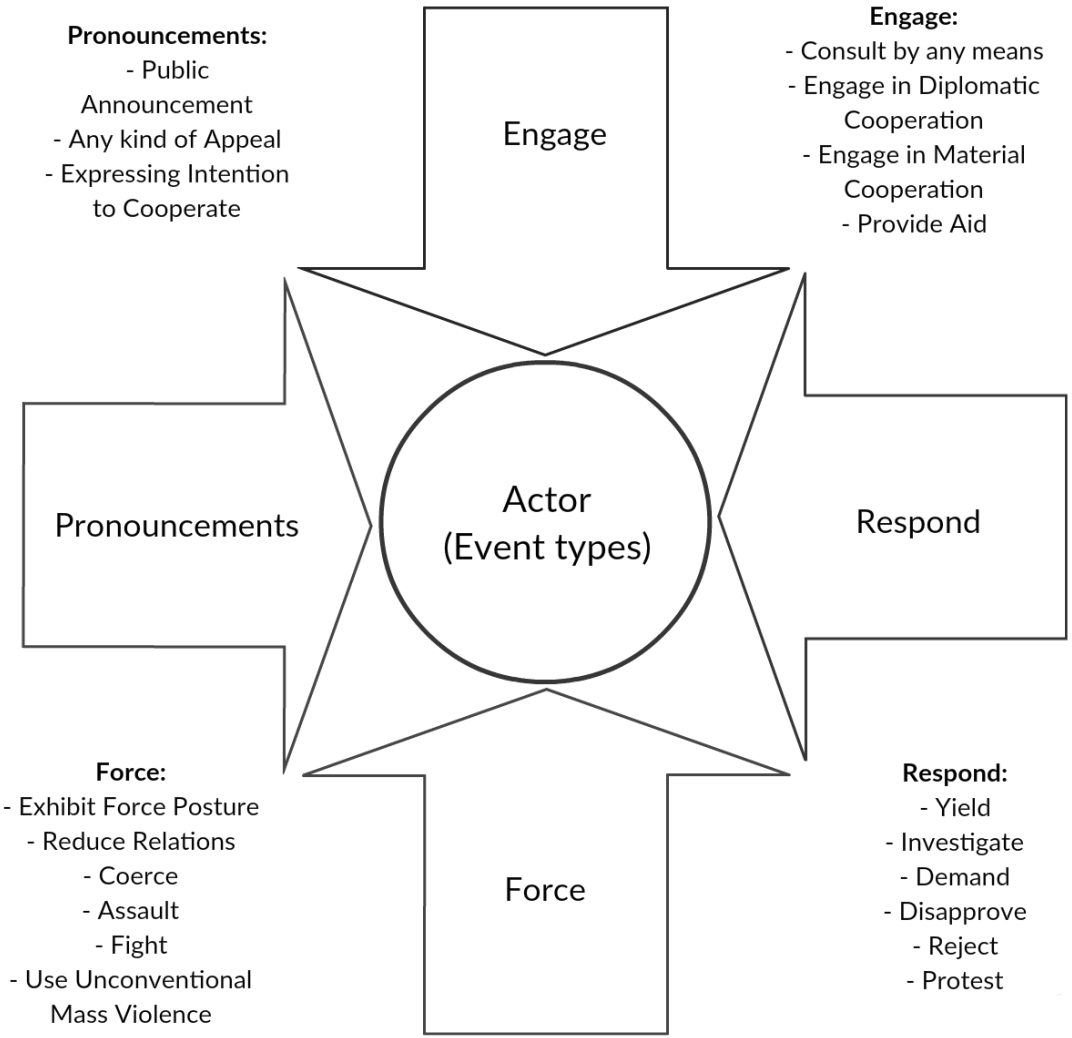
Our Mediation Ontology

- Pronouncements
- Engage
- Respond
- Force

Mapping between CAMEO and our mediation ontology



Dataset

- IR Events between September 1, 2017 and September 30, 2017.
- Description

Class	Training Data	Testing Data	Total
Pronouncements	38130	4237	42367
Engage	23136	2571	25707
Respond	16275	1809	18084
Force	15510	1724	17234
Total	93051	10341	103392

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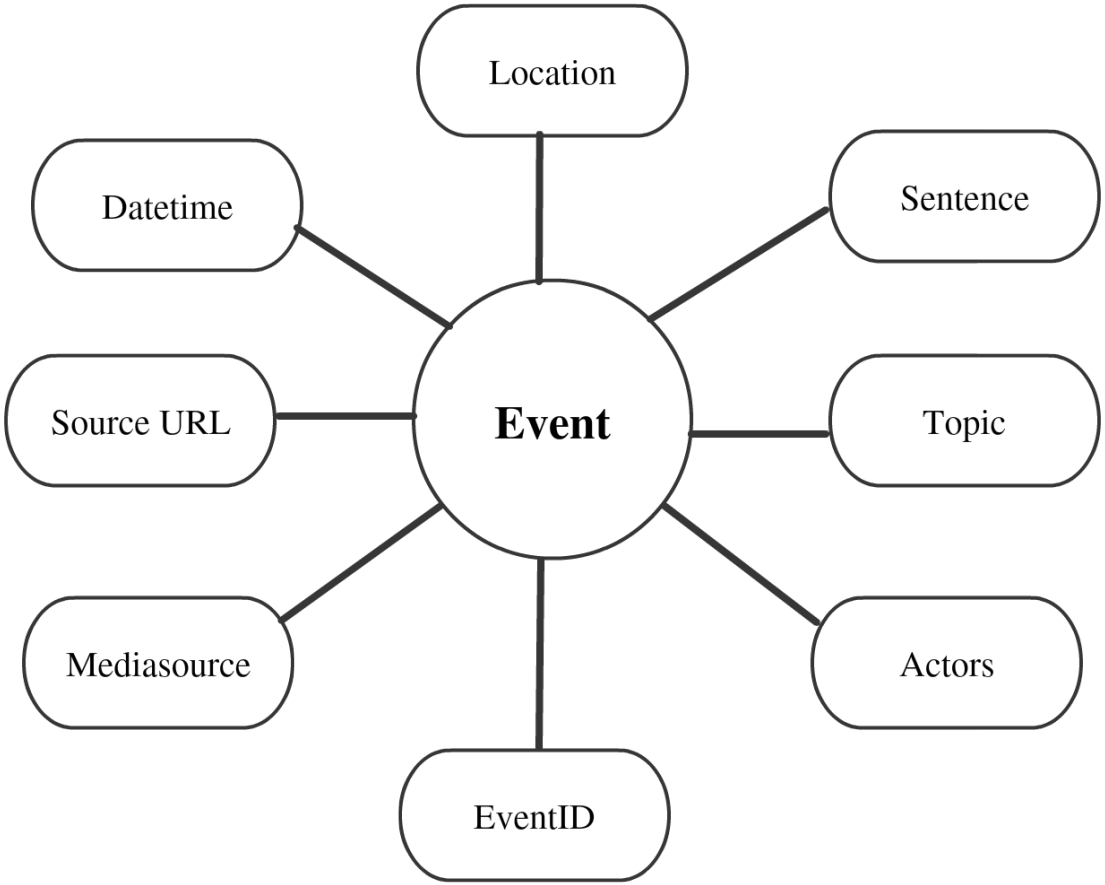
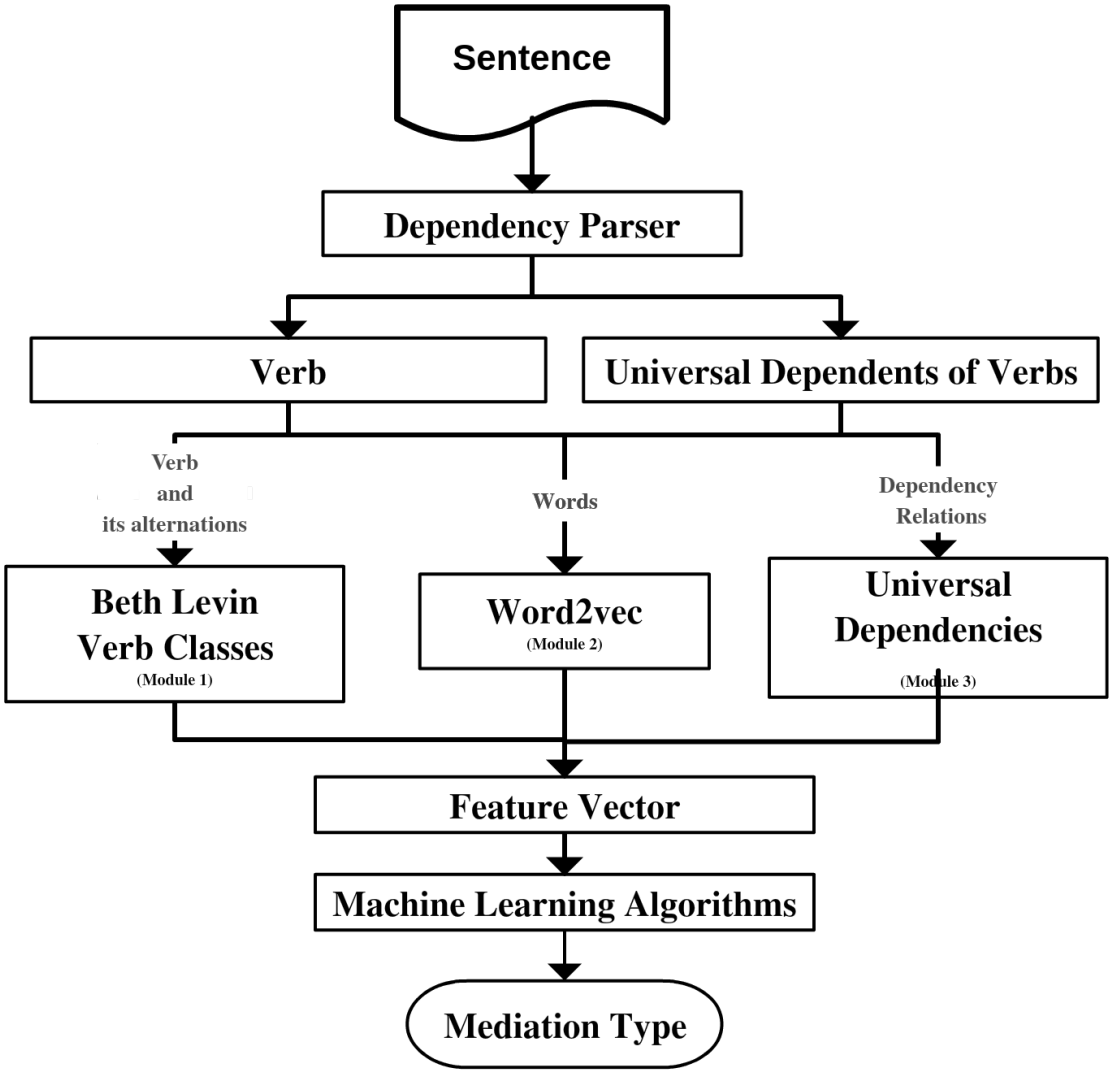
Event Model


Location
Datetime
Sentence
Source URL
Event
Topic
Mediasource
Actors
EventID

Methodology



Mapping between Mediation categories and Beth Levin Classes

Class	Beth Levin Verb Classes
Pronouncements	Characterize Verbs , Appeal Verbs , Long Verbs , Verbs of Transfer of a Message , Tell Verbs, Verbs of Manner of Speaking , Say Verbs , Complain Verbs , Reflexive Verbs of Appearance
Engage	Pit Verbs , Drive Verbs , Contribute Verbs , Verbs of Future Having , Verbs of Exchange , Build Verbs , Grow Verbs , Create Verbs , Performance Verbs , Dub Verbs , Conjecture Verbs , Admire Verbs , Judgment Verbs , Correspond Verbs , Meet Verbs , Talk Verbs , Chitchat Verbs , Dine Verbs , Gorge Verbs , Verbs of Spatial Configuration , Verbs of Contiguous Location , Verbs of Inherently Directed Motion , Roll Verbs , Verbs that are not Vehicle Names , Accompany Verbs
Respond	Banish Verbs , Manner Subclass , Verbs of Possessional Deprivation: Cheat Verbs , Get Verbs , Hold Verbs , Verbs of Concealment , Separate Verbs , Split Verbs , Disassemble Verbs , Amuse Verbs , Verbs of Assessment , Search Verbs , Investigate Verbs , Advise Verbs , Break Verbs , Bend Verbs , Other Alternating Verbs of Change of State , Verbs of Lingering
Force	Throw Verbs , Hit Verbs , Swat Verbs , Sight Verbs , Murder Verbs

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Results

Method (One Vs Rest Classifier)	**Precision**	**Recall**	**F1-Score**	**Accuracy**
Logistic Regression	0.79	0.80	0.79	0.78
Random Forest	0.75	0.77	0.76	0.73
Ensemble (Logistic Regression + Random Forest)	0.78	0.80	0.79	0.77
Multi-layer Perceptron	0.80	0.80	0.80	0.80

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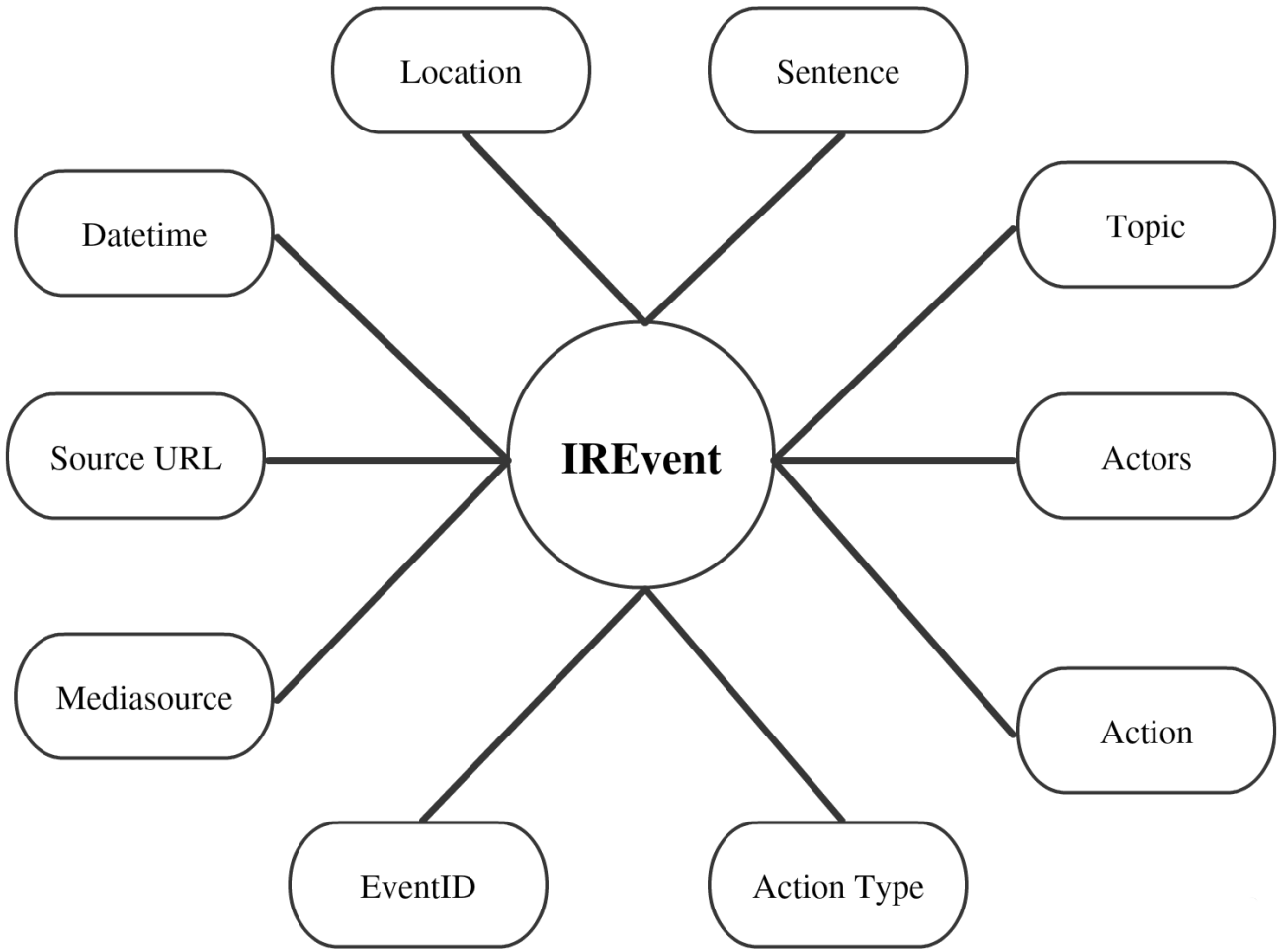
Updated Event Model



Definition of Narrative

Nathanael Chambers and Dan Jurafsky

- A narrative event is a tuple of an event and its participants, represented as typed dependencies.
- A narrative event chain is a partially ordered set of narrative events that share a common actor (protagonist).

Live Demo

http://ceh.iiit.ac.in/international_politics/

Future Work

- Perspectives Mapper
- Conflict theory for International Relations
- Identification of Conflict
- Various perspectives of framing International Conflicts

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Questions and Answers

In fond memory of Prof. Navjyoti Singh.

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Thank You

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