

**LANGUAGE
COMPUTER**



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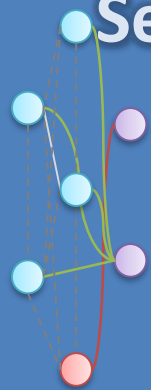
LCC Background

“Boutique” provider of **next-generation** natural language processing software solutions for Government and commercial customers

- Founded **1995**
- Based in **Richardson, Texas**
- Over 50 peer reviewed publications
- ARDA Aquaint, IARPA SCIL, IARPA Metaphor, DARPA Causal Exploration, DARPA CCU

Technical Capabilities

Semantic Analysis and Knowledge Base Creation



- ❖ Named Entity Recognition
 - ❖ People, Organizations, and Products
- ❖ Event Recognition
- ❖ Concept Recognition
- ❖ Geocoding
- ❖ Knowledgebase Linking
- ❖ Time-stamping
- ❖ Modality

Summarization

- ❖ Event Tracking
- ❖ Update Summarization
- ❖ Product Tracking
- ❖ Dossier Generation

Textual Inference

- ❖ Geospatial
- ❖ Plan Recognition
- ❖ Temporal
- ❖ Entailment

Technical Capabilities

Personal Analytics



- ❖ User Segmentation
- ❖ Cognitive State
- ❖ Personality
- ❖ Goals
- ❖ Intentions
- ❖ Actions

Personal Interactions Analytics



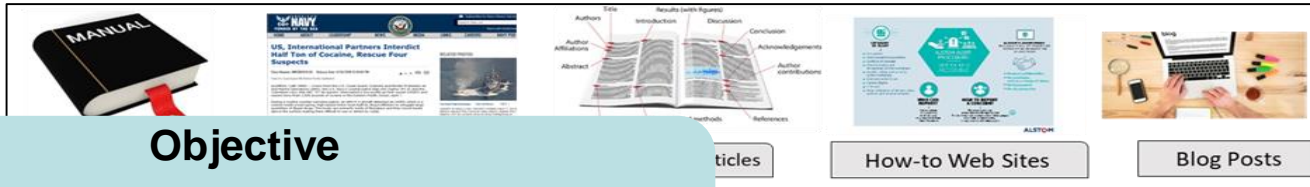
- ❖ Social Actions
- ❖ Reputation
- ❖ Interaction Patterns
- ❖ Influence
- ❖ Sentiment

Group Analytics



- ❖ Social Roles
- ❖ Social Capital
- ❖ Group Leadership
- ❖ Group Cohesion
- ❖ Group Success

Learning Procedures



Objective

To what extent can procedural knowledge be derived from texts, enhanced with world knowledge, and presented to planners, decision makers, and task performers in a way that reduces their cognitive load?

Interactive Procedure Rationale and Explanation Viewer

Procedure Explorer

Completed Current

Click on step to see its constructs, context, and provenance.

Click to explore sub-procedure

Click to view arguments, preconditions, and effects

Provenance

Commander's Handbook on the Law of Naval Operations

...of "intercepting" ships at sea may range from querying the master of the vessel to stopping, boarding, inspecting, searching, and even seizing the cargo or the vessel... Interference with a international waters violates the sovereign rights of the flag s that interference is authorized by the flag State or otherwise permitted by international law.

Procedural arguments and constructs Highlighted

Link to source

Mission & Task Context

Permitted by int. law	True
Interdiction Force	Coast Guard Cutter Valiant
Max Speed	20 Knots
Sensors	2 x AN/SPS-64 radar
Crew	75
Arm	25 mm machine gun 50 calibre User Supplied Dossier

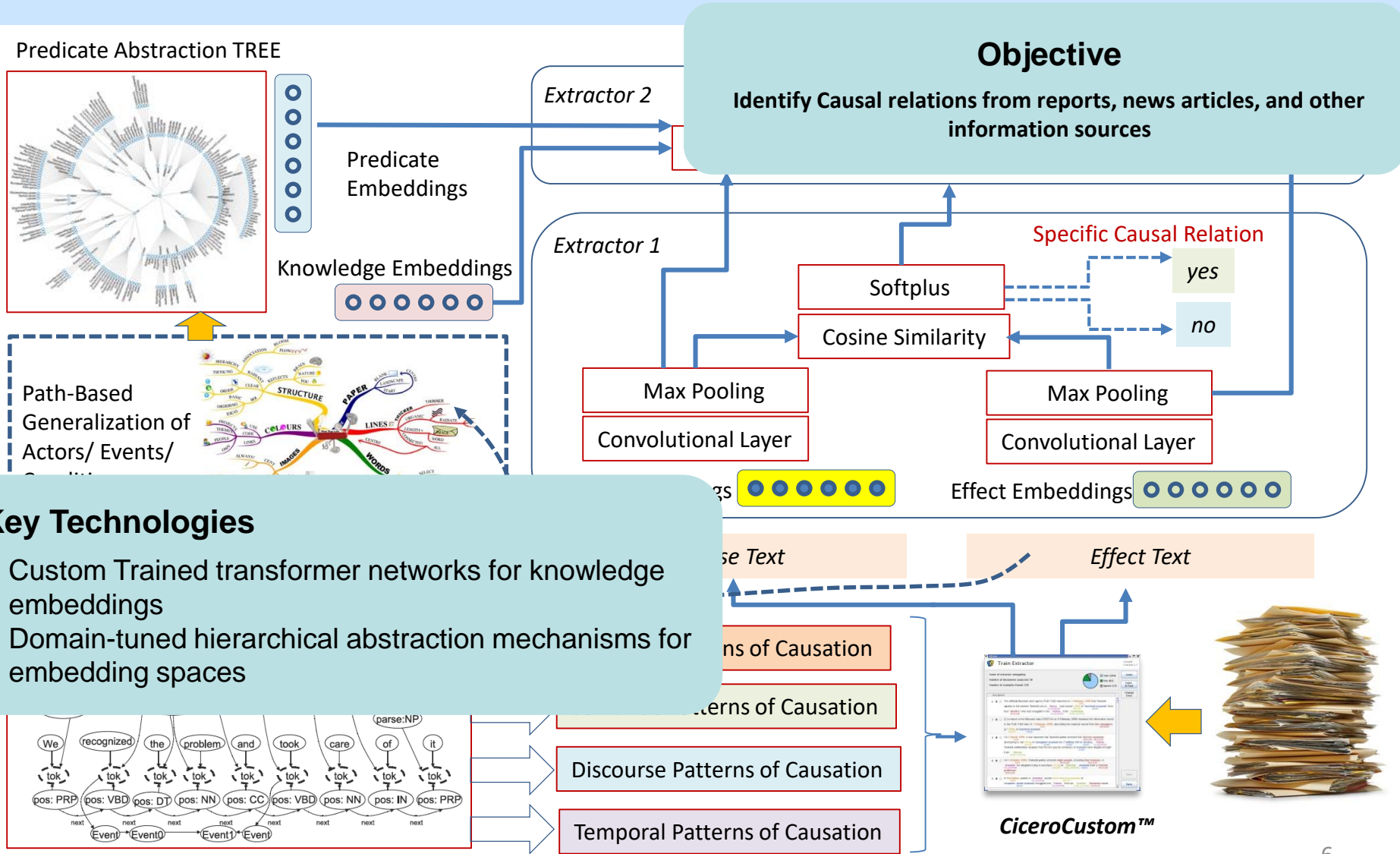
Contextual Knowledge Source

Key Technologies

- We employ Probabilistic Soft Logic (PSL) for applying and leveraging common-sense knowledge over event sequences.
- Logical consistency constraints + succinct representations of commonsense knowledge



Extraction of Causal Information From Text



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