



Topic/project/effort description

[PROJECT-NAME] ACHIEVEMENT

STATUS QUO

What is the state of the art and what are its limitations?

(DELETE THIS BOX OF TEXT AND INSERT DIAGRAM(S))

Primary answer here. Add more text as necessary.

- First bullet point
- Additional as necessary

NEW INSIGHTS

What are the key new insights?

(REPLACETHIS BOX AND INSERT DIAGRAM(S))

- First key insight.** Add more text as necessary.
- Second key insight.** Add more text as necessary.
- Add other points as necessary

MAIN ACHIEVEMENT:

Placeholder explanatory text. Replace with text and diagrams as necessary.

HOW IT WORKS:

Placeholder explanatory text paragraph. Replace with text and diagrams as necessary.

ASSUMPTIONS AND LIMITATIONS:

- Limitation or assumption
- Another limitation or assumption

QUANTITATIVE IMPACT

CHARACTERIZE THE QUANTITATIVE IMPACT

(DELETE THIS BOX OF TEXT AND INSERT TABLE, GRAPH, OR OTHER SUITABLE VISUALIZATION)

- First item planned.** Add more text as necessary.
- Second item planned.** Add more text as necessary.
- Add other points as necessary

END-OF-PHASE GOAL

What are the end-of-phase goals?

(REPLACE WITH DIAGRAM/TEXT/ THRESHOLD CRITERIA)

- Primary answer here. Add more text as necessary.**
- First key point
 - Additional as necessary

A sentence why it is important/useful



Narrative-based prediction in Command and Control

STATUS QUO

Case-Based Reasoning and Analogical Reasoning comprise the status quo

Pros and cons:

- Case-Based Reasoning suffers from flat and inflexible representations
- Analogical Reasoning suffers from exponential slowdowns on large datasets
- Neither technique deals with distracting details
- Neither technique speaks to the identification of **classes** of event sequences (narratives) to guide interpretation and information gathering (i.e., separating signal from noise)

NEW INSIGHTS

Analogical Story Merging.

Compress the set of possible narratives and filter out noise via Analogical Story Merging over a large set of narrative examples.

Intermediate Feature Retrieval.

Use mutual information to identify those events that are most indicative of the narrative class.

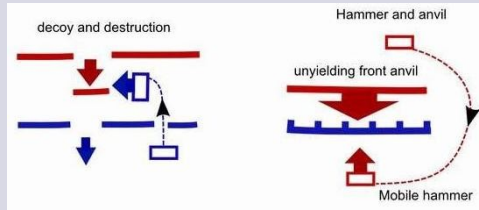
LAMP PROJECT ACHIEVEMENT

MAIN ACHIEVEMENT:

Proof of concept demonstration of analogical story merging. Proof of concept demonstration of narrative retrieval based on intermediate features

HOW IT WORKS:

Analogical Story Merging generalizes from a set of example narratives by incrementally compressing an initial model. It allows us to identify classes of battle event sequences, such as *decoy and destruction*, or *hammer and anvil*.



Intermediate Feature Retrieval finds relevant precedents using events and relations between events, rather than superficial characteristics of the players involved.

ASSUMPTIONS AND LIMITATIONS:

- Demonstration will assume text-based input; other modalities can be integrated later
- Demonstration will be limited to small, proof of concept data sets.

QUANTITATIVE IMPACT

Identification and use of narrative during a battle, enabling battle-winning interpretation, prediction, and focused intelligence gathering

END-OF-PHASE GOAL

Demonstrate a proof-of-concept system that:

1. Derives at least two battle classes from a small corpus of example battles (5-10) via Analogical Story Merging
2. Exploits a small set of descriptions (2-6) of the same battle at different levels of detail for use as the information stream
3. Illustrates identification and prediction of important events in spite of distracting detail or misleading information

Narrative structure can guide interpretation of developing military situations, enabling interpretation, prediction, and focused intelligence gathering