**EVENT EXTRACTION MODEL BASED ON UIE**

**INTRODUCTION:**

Event extraction aims to extract the event from instructed text with features such as time, location, and continuous changes in state and transform it into structured data. EE plays an important role in our project to extract the meeting, events and task. The task of event extraction comprises four subtasks: trigger identification, event classification, argument identification, and argument role classification. The first two subtasks primarily focus on event detection, which involves identifying trigger words of events in the text and classifying them. The latter two subtasks focus on argument extraction, which involves identifying the arguments associated with each event type within the text and establishing the role relationships between triggers and arguments.

**Event Extraction Techniques:**

Event extraction (EE) is a critical task in natural language processing (NLP) that involves identifying **event triggers** (words or phrases that indicate an event) and their associated **arguments** (entities or details related to the event).

**Multi-Event Problem:** A single document often contains multiple events, making it difficult to extract complete and accurate event structures.

Example:

In a single document (or email), there can be multiple events occurring simultaneously or sequentially. For example, an email might discuss a meeting, a deadline, and a project update all at once.

Extracting these events accurately requires identifying each event's trigger (e.g., "meeting," "deadline") and its associated arguments (e.g., date, time, participants).

**Argument Intertwining Problem:** Arguments may play different roles across multiple events, leading to confusion in event extraction.

**Relation-Augmentation Algorithm:**

One of the key innovations in the RAUIE model is the relation-augmentation algorithm, which enhances the correlation between triggers and arguments. The algorithm works as follows:

**Candidate Filtering:** Filters candidate triggers and arguments based on probability thresholds.

**Text Span Sorting:** Sorts arguments based on their text span (distance from the trigger) to ensure that the most relevant arguments are linked to the correct event.

**Event Filling:** Fills event structures with the most relevant arguments, ensuring completeness.

**Conclusion:**

These methods help to extract the events, deadlines and tasks. And these helps handle multiple events in single email.

**Research Paper:** RAUIE: A Relation-Augmented Document-level Event Extraction Model Based on UIE.

Link: https://ieeexplore-ieee-org.rlib.pace.edu/stamp/stamp.jsp?tp=&arnumber=10581499