

to default values following [Kojima et al. \(2022\)](#).

I Prompt of Vanilla Prompt vs. ChatIE

Tab. [10](#), [11](#) and [12](#) demonstrate the comparison of vanilla prompts (Row **Single**) and our Chat-based prompts (Row **ChatIE**).¹⁷

¹⁷The experiments are conducted using the version of Chat-GPT prior to January 30, 2023.

1	Vanilla Prompt	Chat-based Prompt
STAGE I	<p>Question: Suppose you are an entity-relationship triple extraction model. I'll give you list of head entity types: subject_types, list of tail entity types: object_types, list of relations: relations. Give you a sentence, please extract the subject and object in the sentence based on these three lists, and form a triplet in the form of (subject, relation, object).</p> <p>The given sentence is "Bono said that President Jacques Chirac of France had spoken eloquently of the need to support Africa , though he added that France had not yet come through with the resources ."</p> <p>relations: ['location-located_in', 'administrative_division-country', 'person-place_lived', 'person-company', 'person-nationality', 'company-founders', 'country-administrative_divisions', 'person-children', 'country-capital', 'deceased_person-place_of_death', 'neighborhood-neighborhood_of', 'person-place_of_birth']</p> <p>subject_types: ['organization', 'person', 'location', 'country']</p> <p>object_types: ['person', 'location', 'country', 'organization', 'city']</p> <p>In the given sentence, what triples might be contained? Please answer in the form (subject, relation, object):</p> <p>-----</p> <p>Expected Output: [(Jacques Chirac, person-nationality, France)] Output: []</p>	<p>Question: The given sentence is " Bono said that President Jacques Chirac of France had spoken eloquently of the need to support Africa , though he added that France had not yet come through with the resources ."</p> <p>List of given relations: ['location-located_in', 'administrative_division-country', 'person-place_lived', 'person-company', 'person-nationality', 'company-founders', 'country-administrative_divisions', 'person-children', 'country-capital', 'deceased_person-place_of_death', 'neighborhood-neighborhood_of', 'person-place_of_birth']</p> <p>What relations in the given list might be included in this given sentence? If not present, answer: none. Respond as a tuple, e.g. (relation 1, relation 2,):</p> <p>-----</p> <p>Expected Output: (person-nationality) Output: (person-nationality)</p>
	<p>None</p>	<p>Question: According to the given sentence, the two entities are of type ('person', 'country') and the relation between them is 'person-nationality', find the two entities and list them all by group if there are multiple groups. If not present, answer: none. Respond in the form of a table with two columns and a header of ('person', 'country'):</p> <p>-----</p> <p>Expected Output: (Jacques Chirac, France) Output: (Jacques Chirac, France)</p>

Table 10: Illustration of vanilla prompts vs our Chat-based prompts in terms of RE. The text highlighted with red represents the prompt template. The text following **Question:** represents the prompt that is used in ChatIE.

1	Vanilla Prompt	Chat-based Prompt
STAGE I	<p>Question: I'm going to give you a sentence and ask you to identify the entities and label the entity category. There will only be 4 types of entities: ['LOC', 'MISC', 'ORG', 'PER']. Please present your results in list form. "Japan then laid siege to the Syrian penalty area and had a goal disallowed for offside in the 16th minute." Make the list like: ['entity name1', 'entity type1'], ['entity name2', 'entity type2'].....</p> <hr/> <p>Expected Output: ["Japan", "LOC"], ["Syrian", "MISC"] Output: []</p>	<p>Question: Given sentence: "Japan then laid siege to the Syrian penalty area and had a goal disallowed for offside in the 16th minute." The known entity types are: ['LOC', 'MISC', 'ORG', 'PER']. Please answer: What types of entities are included in this sentence?</p> <hr/> <p>Expected Output: LOC, MISC Output: LOC, MISC</p>
STAGE II	None	<p>Question: According to the sentence above, please output the entities of 'LOC' in the form of list like: ['entity name1', 'entity type1'], ['entity name2', 'entity type2'].....</p> <hr/> <p>According to the sentence above, please output the entities of 'MISC' in the form of list like: ['entity name1', 'entity type1'], ['entity name2', 'entity type2'].....</p> <hr/> <p>Expected Output: ["Japan", "LOC"], ["Syrian", "MISC"] Output: ["Japan", "LOC"], ["Syrian", "LOC"]</p>

Table 11: Illustration of vanilla prompts vs our Chat-based prompts in terms of NER. The text highlighted with red represents the prompt template. The text following **Question:** represents the prompt that is used in ChatIE.

1	Vanilla Prompt	Chat-based Prompt
STAGE I	<p>Question: The list of argument roles corresponding to the event type 'Contact:Phone-Write' is ['Entity', 'Time'], The list of argument roles corresponding to the event type 'Business:Declare-Bankruptcy' is ['Org', 'Time', 'Place'], The list of argument roles corresponding to the event type 'Justice:Arrest-Jail' is ['Person', 'Agent', 'Crime', 'Time', 'Place'], The list of argument roles corresponding to the event type 'Life:Die' is ['Agent', 'Victim', 'Instrument', 'Time', 'Place'], The list of argument roles corresponding to the event type 'Personnel:Nominate' is ['Person', 'Agent', 'Position', 'Time', 'Place'], The list of argument roles corresponding to the event type 'Conflict:Attack' is ['Attacker', 'Target', 'Instrument', 'Time', 'Place'], The list of argument roles corresponding to the event type 'Justice:Sue' is ['Plaintiff', 'Defendant', 'Adjudicator', 'Crime', 'Time', 'Place'], The list of argument roles corresponding to the event type 'Life:Marry' is ['Person', 'Time', 'Place']. Give a sentence:"What I do know is Saddam Hussein has butchered over a million of his own citizens.", please extract the event arguments according to the argument roles, and return them in the form of a table.The header of the table is 'event type', 'argument role', 'argument content'. If no argument role has a corresponding argument content, the argument content returns "None".</p> <hr/> <p>Expected Output: "event_type": "Life:Die", "arguments": ["role": "Victim", "argument": "over a million of his own citizens", { "role": "Agent", "argument": "Saddam Hussein" } Output: None</p>	<p>Question: The list of event types: ['Life:Die', 'Justice:Arrest-Jail', 'Contact:Phone-Write', 'Life:Marry', 'Conflict:Attack', 'Personnel:Nominate', 'Business:Declare-Bankruptcy', 'Justice:Sue']</p> <p>Give a sentence: "What I do know is Saddam Hussein has butchered over a million of his own citizens." What types of events are included in this sentence? Please return the most likely answer according to the list of event types above. Require the answer in the form: Event type</p> <hr/> <p>Expected Output: Life:Die Output: Life:Die</p>
STAGE II	None	<p>Question: The list of argument roles corresponding to the event type 'Life: Die' is ['Agent', 'Victim', 'Instrument', 'Time', 'Place']. please extract the event arguments in the given sentence according to the argument roles, and return them in the form of a table. The header of the table is 'event type', 'argument role', 'argument content'. If no argument role has a corresponding argument content, the argument content returns "None".</p> <hr/> <p>Expected Output: "arguments": ["role": "Victim", "argument": "over a million of his own citizens", { "role": "Agent", "argument": "Saddam Hussein" } Output: "arguments": ["role": "Victim", "argument": "over a million of his own citizens", { "role": "Agent", "argument": "Saddam Hussein" }</p>

Table 12: Illustration of vanilla prompts vs our Chat-based prompts in terms of EE. The text highlighted with red represents the prompt template. The text following **Question:** represents the prompt that is used in ChatIE.