

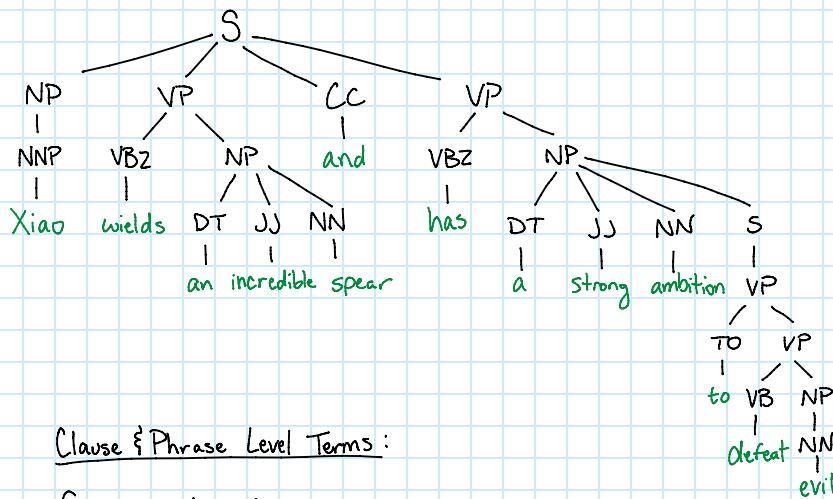
Sentence Parsing

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1. Write a fairly complex sentence, at least 12 tokens. More points awarded for sentences w/ more than one clause

Xiao wields an incredible spear and has a strong ambition to defeat evil

2. PSG tree (Constituency Parsing)



Clause & Phrase Level Terms:

S: simple declarative clause

NP: noun phrase; also known as nominal, can perform the same function as a noun

VP: verb phrase; phrase composed of a verb & its modifiers

CC: coordinating conjunction; relation between a preceding Coordinating conjunction and a conjunct

NNP: proper noun, singular; named used for an individual place, person, or organization

VBZ: verb, 3rd person, singular, present

DT: determiner; relation between its determiner and the head of an NP

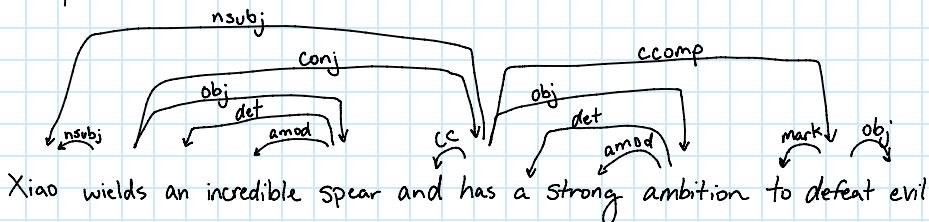
JJ: adjective

NN: noun compound modifier; any noun that serves to modify the head noun

TO: to

VB: Verb, base form

3. Dependency Parse



Dependency Relations:

nsubj: nominal subject; noun phrase that is the subject of a clause

amod: adjectival modifier; any phrase that has a serving to modify the meaning of a noun phrase (NP)

det: determiner; relation between its determiner and the head of an NP

obj: object

conj: conjunct; relation between two elements that is connected b a coordinating conjunction

cc: coordinating conjunction; a relation between a preceding coordinating conjunction and a conjunct

ccomp: clausal complement; a dependent clause w/ an internal subject which functions like an object of the verb or adjective

mark: marker; used to introduce a finite clause that is subordinate to another clause

(4) SRL (Semantic Role Labeling)

Xiao wields an incredible spear and has a strong ambition to defeat evil

- Predicate: wields an incredible spear
 - has a strong ambition to defeat evil

- Args for 'wields':

Argo0: 'Xiao'

Argo1: 'an incredible spear'

Note: Argo0, 'Xiao', is the one doing the action, which is wielding. Argo1, 'an incredible spear'. Argo1 is the passive actor while Argo0 is the agent of the sentence. In this case, the verb 'wields' is used to convey how 'Xiao' is going to perform on the passive action.

- Args for 'has':

Argo0: 'Xiao'

Argo1: a strong ambition to defeat evil

Note: Argo0, 'Xiao', is the one doing the action, which is having Argo1, 'a strong ambition to defeat evil'.

- Args for 'defeat':

Argo1: 'evil'

Note: Argo1, 'evil' is the passive actor to the verb, 'defeat'.

(5) PSG vs Dependency Parsing vs SRL

While every sentence parser manages to provide more in-depth knowledge of the sentence that I have made, each one one of the sentence parser stands out and faces particular challenges in its own way.

Let's start w/ PSG trees.

All of the words are broken down into their POS in phrase structure trees, which are thorough, fully detailed trees. This could be helpful in visualizing how the sentence was put together, but it might be unclear why the tree is organized in that way. Dependency parsing helps to make the intention and logic behind phrase structure easier to see in this situation. In other words, dependency parsing helps to visualize only the relations between words and phrases. Yet, we may go even farther and claim that dependency parsing leaves a lot to be desired and that Semantic role labeling (SRL) aids in further conceptualizing and analyzing the sentence. SRL uses the verbs in the phrase/sentence as roots for determining relevant 'actors' in the clause that is attached to the verb. This is useful for observing the effects that particular words or phrases have on objects and determining what kind of context the objects and modifiers are in. Although, SRL does have trouble w/ determining the specific POS for each word.

I believe each of the three types of sentence parsing has its own particular use case, therefore depending on the scenario, I'll need to utilize different parsers that would help w/ understanding the scenario.