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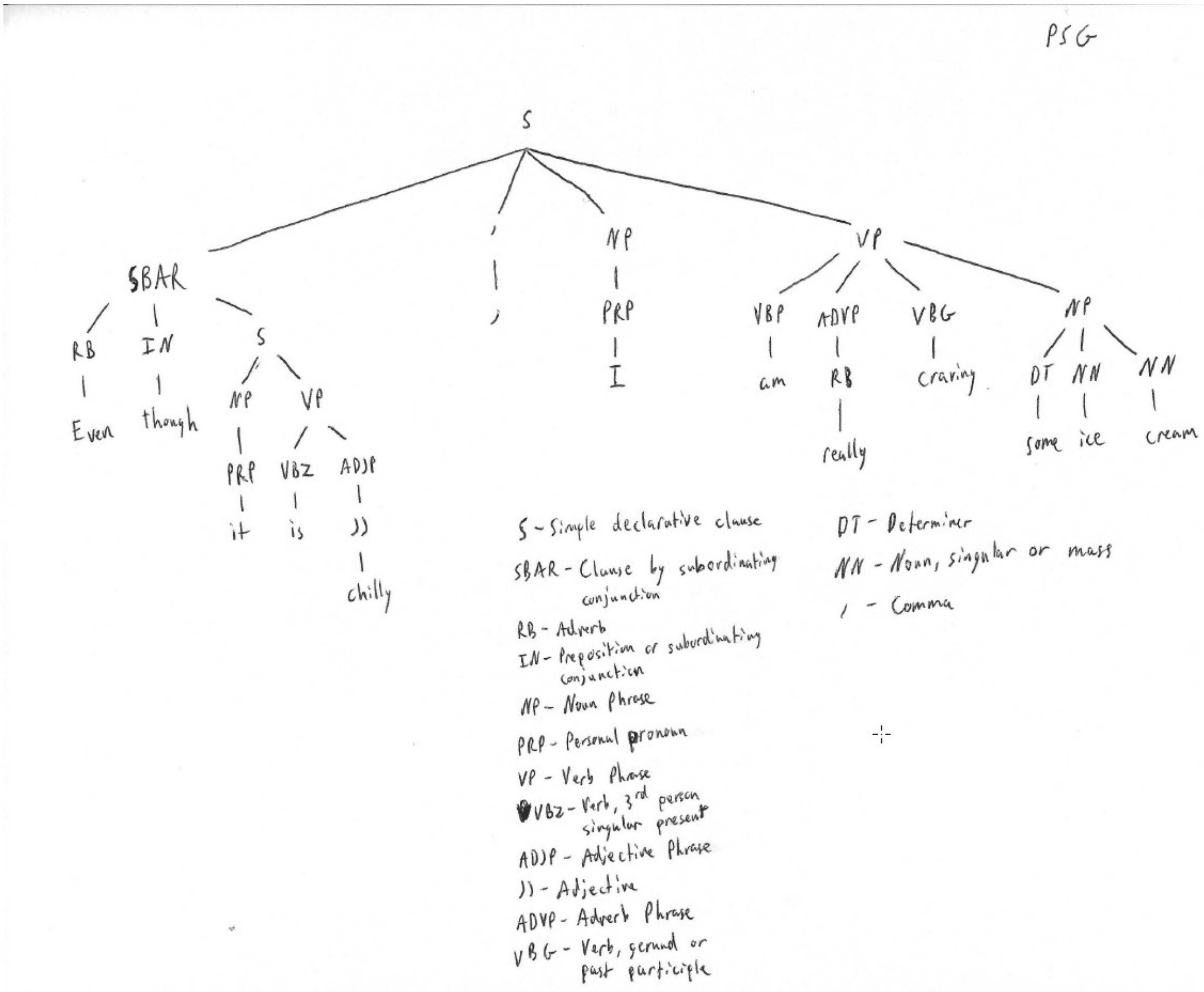
CS 4395

Sentence Parsing

Sample sentence:

Even though it is chilly, I am really craving some ice cream

PSG:



S - Simple declarative clause

SBAR - Clause by subordinating conjunction

RB - Adverb

IN - Preposition or subordinating conjunction

NP - Noun Phrase

PRP - Personal pronoun

VP - Verb Phrase

VBZ - Verb, 3rd person singular present

ADJP - Adjective Phrase

JJ - Adjective

ADVP - Adverb Phrase

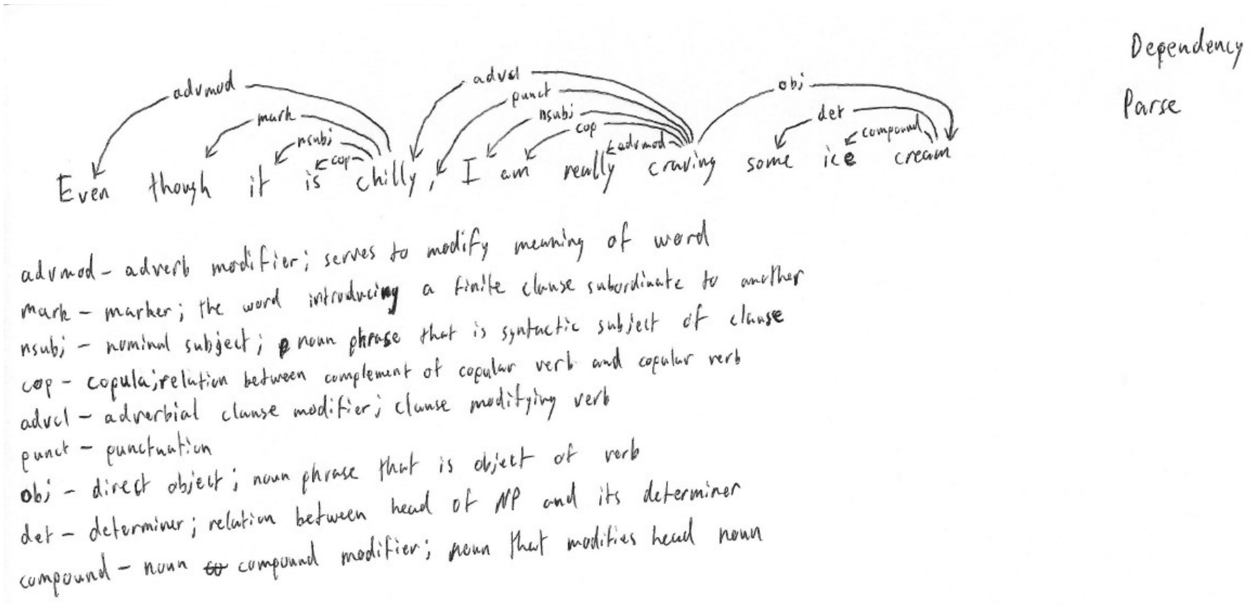
VBG - Verb, gerund or past participle

DT - Determiner

NN - Noun, singular or mass

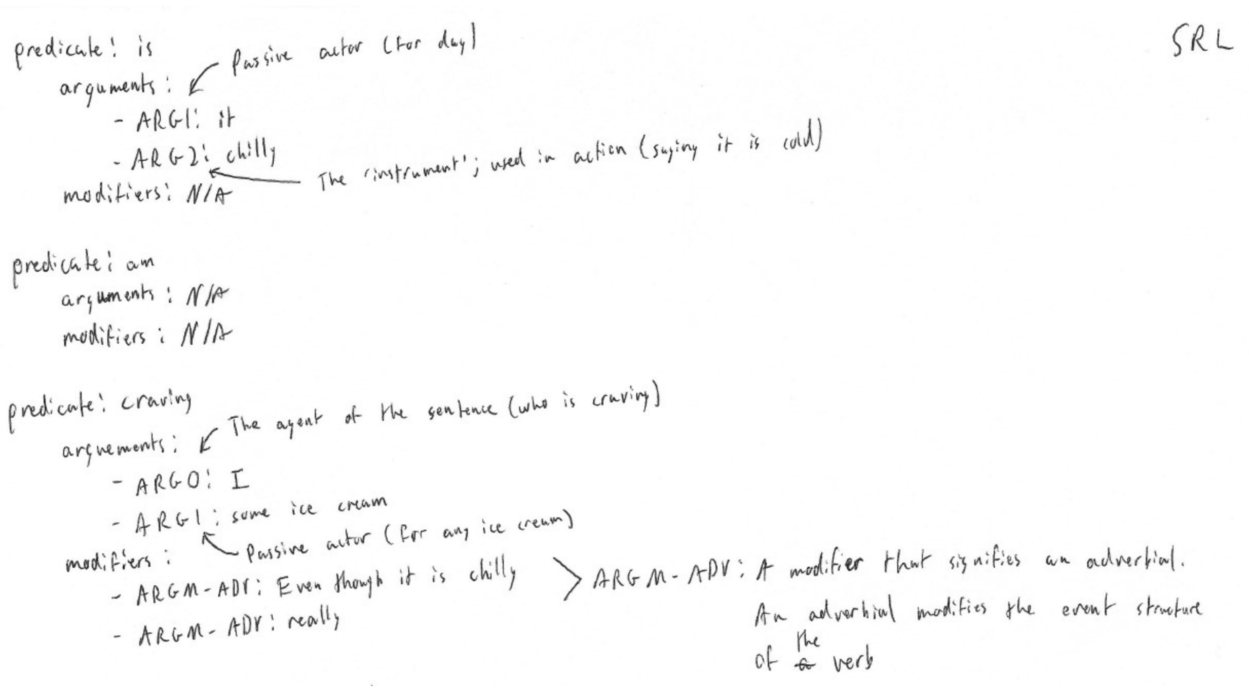
, - Comma

Dependency parse:



advmod - adverb modifier; serves to modify meaning of word
mark - marker; the word introducing a finite clause subordinate to another
nsubj - nominal subject; ~~p~~ noun phrase that is syntactic subject of clause
cop - copula; relation between complement of copular verb and copular verb
advcl - adverbial clause modifier; clause modifying verb
punct - punctuation
obj - direct object; noun phrase that is object of verb
det - determiner; relation between head of NP and its determiner
compound - noun ~~co~~ compound modifier; noun that modifies head noun

SRL:



SRL

predicate: is
    arguments: ← Passive actor (for day)
        - ARG1: it
        - ARG2: chilly ← The 'instrument'; used in action (saying it is cold)
    modifiers: N/A

predicate: am
    arguments: N/A
    modifiers: N/A

predicate: craving
    arguments: ← The agent of the sentence (who is craving)
        - ARG0: I
        - ARG1: some ice cream ← Passive actor (for any ice cream)
    modifiers:
        - ARGM-ADV: Even though it is chilly
        - ARGM-ADV: really

ARGM-ADV: A modifier that signifies an adverbial. An adverbial modifies the event structure of ~~a~~ the verb

Pros/cons of each parse:

I believe that phrase structure grammar parse is great that it is able to break down a sentence precisely down to its minimum phrase term. However, because it can be so precise, the tree can become overly complex for a tree of multiple sentences. In a dependency parse, it is nice to be able to see how pairs of words relate to each other semantically. Just like the PSG, longer, more complex sentences may not be seen as easily. Lastly with semantic role labeling (SRL) parsing, it is able to locally view who are the actors relative to each predicate identified. I believe one con though is that some predicates may not have arguments or modifiers to identify, like the word “am” that was identified by the AllenNLP demo.