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Assignment 7 Report

1. The cats jumped onto the couch and sat down on top of the remote just when I was reaching for it.
2. A picture containing diagram

   Description automatically generated  
   NP: Noun phrase  
   VP: Verb phrase  
   S: Simple declarative clause  
   PP: Prepositional phrase  
   PRT: Particle  
   SBAR: Clause introduced by a subordinating  
   POS: Possessive ending
3. A piece of paper with writing on it

   Description automatically generated with medium confidence  
   NSUBJ: Nominal subject, noun phrase that is subject of clause  
   PREP: Prepositional modifier, part of speech that modifies verb  
   ADVMOD: Adverb modifier, word that modifies meaning of other word  
   DEP: dependent, system in unable to determine a more exact dependency relation  
   PROBJ: Object of a preposition  
   AUX: Auxiliary, non-main verb of the clause
4. SRL Parse
   1. Verb: Jumped
      1. ARG0: The cat
      2. ARGM-DIR: onto the couch
   2. Verb: sat
      1. ARG1: The cat
      2. ARGM-LOC: on top of the remote
      3. ARGM-TMP: just when I was reaching for it
   3. Verb: was
   4. Verb: reaching
      1. ARGM-TMP: when
      2. ARG0: I
      3. ARG2: for it

Arg0 refers to the agent of the sentence, the one doing the action. In this case, it would be the cat for the verb jumped since that sentence describes the cat jumping onto the couch. Arg1 is the passive actor. Arg2 is the extent or object that the verb is acted on or with. Some of the other ARGS include DIR, which describes motion along a path. There is also LOC which describes where the action happened, and TMP, which describes when the action happened.

1. Pros/Cons
   1. PSG Parse
      1. The PSG parsing is very useful when we want to convert a series of text to tokens. It’s top-down recursive nature makes sense easily in an algorithmic way. It is very similar to CFG languages, thus making it easy to write and code formal rules for. It also provides strong information on the basic part of speech of each token. However, it provides little to no semantical data on the tokens involved, or how the tokens link together within the context of a sentence
   2. Dependency Parse
      1. Dependency parsing is very helpful in learning more about the relationship of the tokens. It helps to create a directed graph that help determine functional relationships between different tokens, starting from a main token. This is very useful when we want to learn more about the semantics of a sentence, since we can know understand more clearly what each token is helping to accomplish meaning wise. However, dependency parsing can often have a hard time properly finding a relation, since there are many unique and complex cases to handle. Coding the graph traversal and creation algorithm can be more complicated that the standard recursion we see in something like PSG parsing.
   3. SRL Parse
      1. SRL parsing is very useful when we want to learn more about the verb tokens in the sentence. It is very good at identifying all important verbs and finding the different modifies of that verb, such as how the verb is done, what the verb is done on, the conditions of the verb, etc. On the other hand, this method provides very little information of tokens that are not modifiers of the verb. They also provides much less semantical and relational information than something such as dependency parsing.