

NLP project documentation

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0.1 File Overview

debug.py	For the pretty print debug function
grammar_fsm.py	Contains the FSM for the semantics
help.py	Will contain help in the future
lg_fsm.py	The old finite state machine for link grammar
lg_py.c	The C module
lg_test.py	The core file currently
semantic_rules.py	Contains all the semantic rules
semantics.py	Parser to retrieve the semantic rules from RelEx
setup.py	To compile the C module

0.2 General Design

0.2.1 Semantic Matching

For the semantic matching it has sets of rules, the input tags are run through a non-deterministic finite state machine that keeps left and right registers. The rule sets are as follows, each rule has a regular expression to match to, it also has a set of registers to match to and then set if they match.

0.2.2 Semantic rule tokenizing

I have another non-deterministic finite state machine(read: regex finite state machine) to parse the rules that were taken from RelEx into something that is manageable.

0.3 Reference

0.3.1 Link Grammar Reference

A	Attributive
AA	AA is used in the construction "How big a dog was it?"
AF	Connects adjectives to verbs in cases where the adjective is "fronted"
B	Is used in a number of situations, involving relative clauses and questions.
D	Connects determiners to nouns,
EA	Connects adverbs to adjectives,
EB	Connects adverbs to forms of "be" before an object, adjective, or prepositional phrase,
I	Connects certain verbs with infinitives,
J	Connects prepositions to their objects,
M	Connects nouns to various kinds of post-nominal modifiers without commas,
Mv	Connects verbs (and adjectives) to modifying phrases,
O*	Connects transitive verbs to direct or indirect objects,
OX	Is a special object connector used for "filler" subjects like "it" and "there",
Pp	Connects forms of "have" with past participles,
Pa	Connects certain verbs to predicative adjectives,
R	Connects nouns to relative clauses,
S	Connects subject-nouns to finite verbs,
Ss	Noun-verb Agreement,
Sp	Noun-verb Agreement,
Wd	Declarative Sentences,
Wq	Questions,
Ws	Questions,
Wj	Questions,
Wi	Imperatives,
Xi	Abbreviations,
Xp	Periods,
Xx	Colons and semi-colons,
Z	Connects the preposition "as" to certain verbs,

0.4 Other Projects

1. FreeLing – <http://www.lsi.upc.edu/nlp/freeling/>
2. NLTK
3. RelEx
4. OpenCog
5. Stanford Parser