Semantic Role Labeling

FrameNet

The basic idea is straightforward: that the meanings of most words can best be understood on the basis of a semantic frame: a description of a type of event, relation, or entity and the participants in it.

For example, the concept of cooking typically involves a person doing the cooking (**Cook**), the food that is to be cooked (**Food**), something to hold the food while cooking (**Container**) and a source of heat (**Heating_instrument**).

FrameNet

Sample FEs: **Apply_heat**, Cook, Food, Heating_instrument and Container

fry, bake, boil, and broil

The job of FrameNet is to define the frames and to annotate sentences to show how the FEs fit syntactically around the word that evokes the frame

FrameNet

FRAMENET DATA SEARCH FOR APPLE

Frame search results: Closest match is appl

Apply_heat

Lexical unit search results: Closest match is apple

Lexical Unit	Frame	LU Status	Lexical Entry Report	Annotation Report
apple.n	Food	Finished_Initial	LE	Anno

Automatic SRL

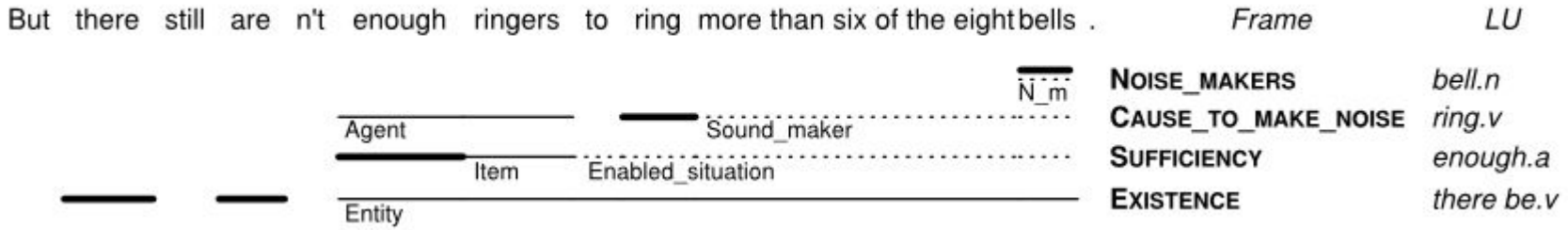
Shalmaneser, created by Katrin Erk and Sebastian Padó at Saarland University, Saarbrücken (http://www.coli.uni-saarland.de/projects/salsa/shal)

LTH, created by Richard Johannson at Lund University (http://nlp.cs.lth.se/software)

SEMAFOR, created by Dipanjan Das and other members of Noah Smith's NLP group at Carnegie Mellon University (http://www.ark.cs.cmu.edu/SEMAFOR)

Semafor

Semantic Analysis of Frame Representations is a tool for automatic analysis of the frame-semantic structure of English text.



https://github.com/Noahs-ARK/semafor-semantic-parser

Code **(Semafor and practnlptools)**

Online demo (semafor)

http://demo.ark.cs.cmu.edu/parse

Code (Python, for both):

https://github.com/LargePanda/Tools-for-NLP/blob/master/srl/tool_code.ipynb

Treebanks

List of treebanks available:

https://en.wikipedia.org/wiki/Treebank#Syntactic_treebanks

Other languages

Portuguese:
nlpnet — Natural Language Processing with neural networks
http://nilc.icmc.usp.br/nlpnet/

Chinese
LTP by Harbin Institute of Technology
http://www.ltp-cloud.com/intro/

语义角色标注

语义角色标注 (Semantic Role Labeling, SRL) 是一种浅层的语义分析技术，标注句子中某些短语为给定谓词的论元 (语义角色)，如施事、受事、时间和地点等。其能够对问答系统、信息抽取和机器翻译等应用产生推动作用。 仍然是上面的例子，语义角色标注的结果为：

其中有三个谓词提出，调研和探索。以探索为例，积极是它的方式（一般用ADV表示），而新机制则是它的受事（一般用A1表示）

标记	说明
ADV	adverbial, default tag (附加的，默认标记)
BNE	beneficiary (受益人)
CND	condition (条件)
DIR	direction (方向)
DGR	degree (程度)
EXT	extent (扩展)
FRQ	frequency (频率)
LOC	locative (地点)
MNR	manner (方式)
PRP	purpose or reason (目的或原因)
TMP	temporal (时间)
TPC	topic (主题)
CRD	coordinated arguments (并列参数)
PRD	predicate (谓语动词)
PSR	possessor (持有者)
PSE	possessee (被持有)