

We study a patient who became **quadriplegic** after parenteral **magnesium** administration for **preeclampsia**.

### UNLABELED DATA

External  
KBs



Subset A  
Subset B  
Subset C

Patterns &  
dictionaries

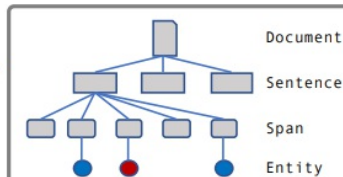
"causes", "induces", "linked to", "aggravates", ...

Domain  
Heuristics

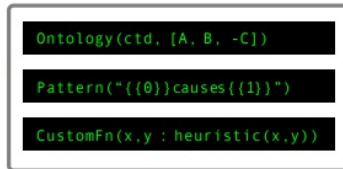


"Chemicals of type A should be harmless..."

### WEAK SUPERVISION SOURCES



### CONTEXT HIERARCHY

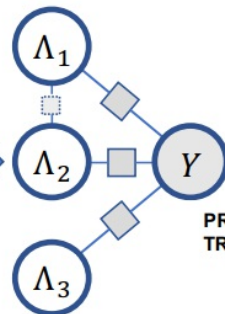


### LABELING FUNCTION INTERFACE

$\Lambda$   
LABEL  
MATRIX

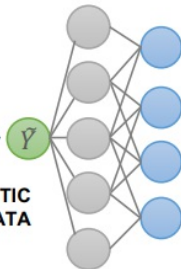
MODELING  
OPTIMIZER

SNORKEL



GENERATIVE  
MODEL

PROBABILISTIC  
TRAINING DATA



DISCRIMINATIVE  
MODEL

TRIPLES  
EXTRACTION

RDF  
KB

