## 3.X

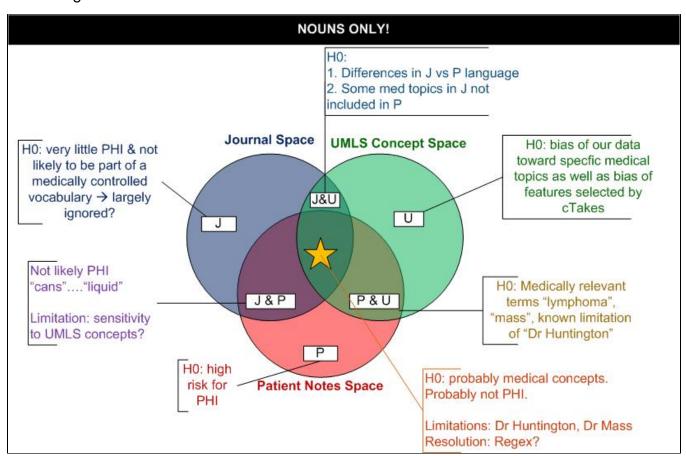
- Reference Docs
- Venn Diagram
- Feature Set Construction (Text words-> Lexical Features)

## Reference Docs



- User Guide
- Human annotation with Protege
- Machine Annotations and Data Dictionary

## Venn Diagram



Feature Set Construction (Text words-> Lexical Features)

Toutare Cot Corlottaction		Text words > Lexical reaction)								
token	dict	regex	pub	pub wo freq	ordumls	u m l s freq	ni	class	prediction	
the	0	0	1	115318	0	0		F	???	
patient	0	0	1	620	1	20		F		
was	0	0	1	14639	1	6		F		
seen	0	0	1	562	1	1		F		
with	0	0	1	19400	1	3		F		
normal	0	0	1	871	1	20		F		
visit	0	0	1	39	1	4		F		

status	0	0	1	513	1	6	F
	0	0	1	102847	0	0	F
patient	0	0	1	620	1	20	F
was	0	0	1	14639	1	6	F
checked	0	0	1	53	1	1	F
for	0	0	1	18770	1	5	F
kidney	0	0	1	60	1	15	F
failure	0	0	1	154	1	5	F
	0	0	1	102847	0	0	F
patient	0	0	1	620	1	20	F
id	0	0	1	28	1	8	F
is	0	0	1	17343	1	7	F
12345	0	1	0	0	0	0	T
and	0	0	1	55187	1	4	F
name	0	0	1	51	1	10	F
is	0	0	1	17343	1	7	F
britt	1	1	0	0	0	0	T
fitch	1	1	1	1	0	0	T
	0	0	1	102847	0	0	F

**①** 

3.X is a new vision for the scrubber. As we approached diminishing returns for improving REGEX and whitelists/black lists, we have shifted towards a machine learning methods approach and learning from large bodies of medical information from publications and UMLS dictionaries.