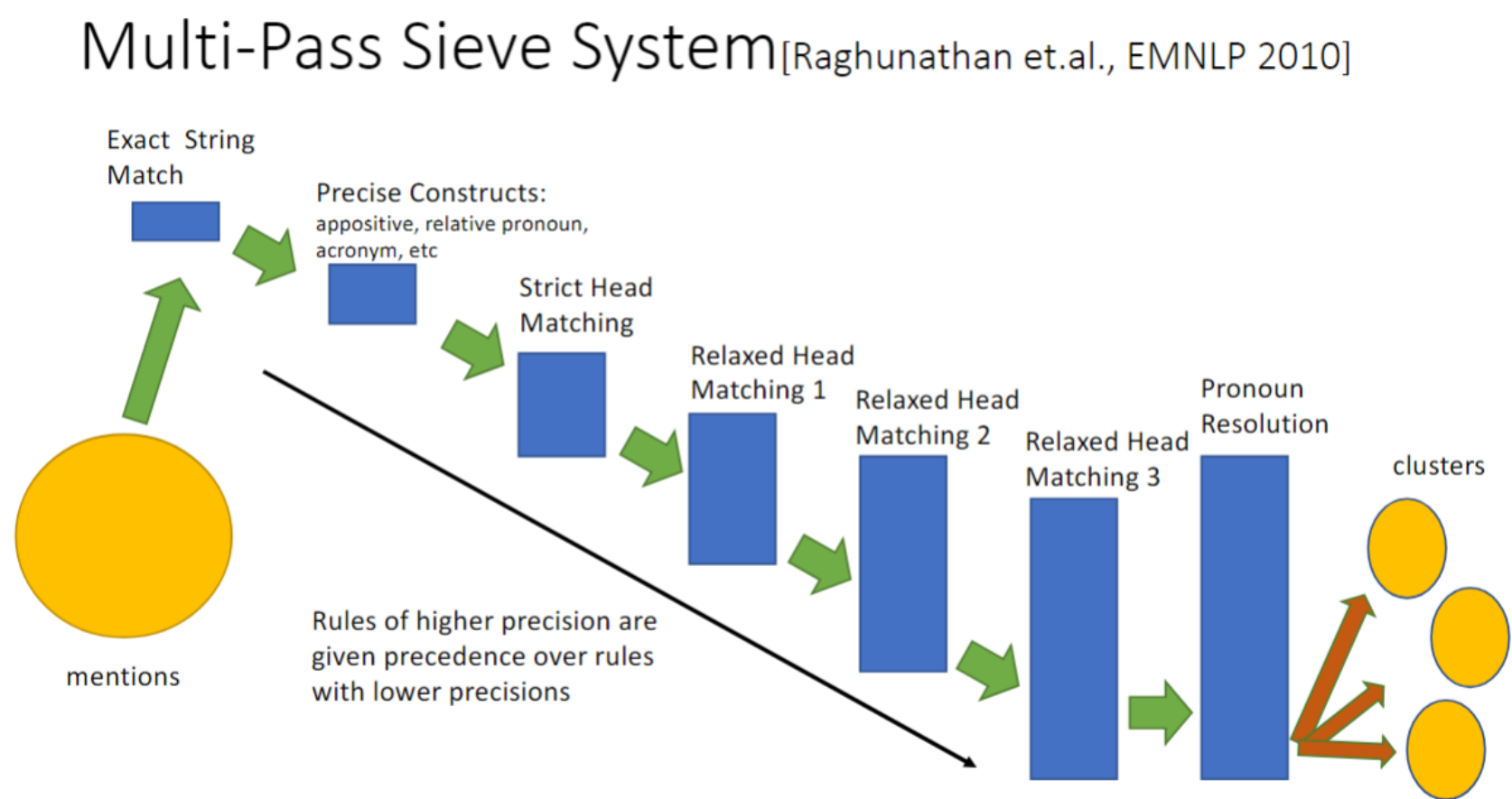


Idea



The general idea comes from Multi-Pass Sieve System (Raghunathan et.al., EMNLP 2010).

- Use pipelined filters to generate answers.
- Rules of higher precision are given precedence over those with lower precisions.

Toolkit

spaCy

Pipeline

Q: What has South Queens Junior High School done with its old metal shop?

Q: How big is the club?

Get what's asked
e.g. How long is your trip?

POS match
["WDT", "WP", "WP\$", "WRB"]
→How

Dependency analyzing
["aux", "ROOT", "auxpass"]
→is

→"How long"

What's asked
e.g. How long

Name entity match
e.g. My trip took me five days.

What's asked
→How long
→ ["DATE", "TIME"]

Name entity
→five days
→"DATE"

→five days

"who": ["PERSON", "ORG", "GPE"],
"whose": ["PERSON", "ORG", "GPE"],
"where": ["LOC", "FAC", "GPE", "ORG"],
"when": ["DATE", "TIME"],
"how often": ["DATE", "TIME"],
"how long": ["DATE", "TIME"]
...

Rest of the sentence
e.g. is your trip

Get head noun
e.g. is your trip

Noun chunks
→your trip

Dependency analyzing
chunk.root
→trip

→trip

Others match

- Case which

Dependency match
sentence.noun_chunk.root.dep_ == question.head_noun.dep_

- Case what, how and why

Output the whole sentence as the answer

Q: What has South Queens Junior High School done with its old metal shop?
A: South Queens Junior High School is taking aim at the fitness market
RA: turned it into a fitness club

Q: How big is the club?
A: 12,000 square foot
RA: 12,000 square feet

Polish

Add \$ before MONEY

Replace '-' with ''
e.g. 12,000-square – foot
→12,000 square foot

Strip leading and trailing spaces

Merge

e.g. answer 1: 5 feet
e.g. answer 2: 2 inches

In the same sentence and adjacent
→5 feet, 2 inches

Similarity sorting
candidate["sentence"].similarity(question)

Overlap sorting
Number of word overlaps in two sentences