

W-NUT Shared Task 3: Extracting COVID-19 Events from Twitter

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Extracting COVID-19 Events from Twitter

Replying to @SingnRing @bordwell_c and @mitchellvii

I am in Ohio, my friend and her husband lived in Florida, he tested positive for covid, He was in OSU hospital in Columbus, he was recovering,he stroked out and passed. He was 39, I believe. There were 2 others that I know of. Both recovered. It's heartbreaking for the ones lost.

6:18 PM · Jul 10, 2020 · Twitter for iPhone

@HarrisCoJudge @SylvesterTurner Despite major symptoms I can't get a test in Houston because I'm under 60 and don't have a dry cough...Everyone over 60 dry coughs 😞😞. HELP ME! 😞

11:03 AM · Mar 25, 2020 · Twitter for iPhone

Slot	Text Span
Who	Her husband
Where	Columbus
Gender	Male
Age	39

Slot	Text Span
Who	I
Where	Houston
Symptom	Yes

A Semantic Search System

- Targeted question answering for user input queries
 - *Who has died of COVID-19?*
 - *Which companies in California have employees that tested positive?*
 - *Who tested positive that had close contact with Boris Johnson?*

<http://kb1.cse.ohio-state.edu:8000/covid19/>

Enter Your Search Query

Free text filter:

Tweets time range:

Start from End at

Other setup:

How many results would you like to return?




Semantic Search for COVID-19 Positive Cases

How To Use

Instructions

To compose a search query, simply fill in zero or more text filters that constrain your search. Next, you can enter a "?" to indicate how the extracted tweets should be grouped. The system will return a list of all unique answers for the field marked with "?", sorted by frequency.

 We also provide a video for demonstrating how to use our system (click "video" icon or scroll down to the bottom of the page).

Sample Queries

Here we provide sample results for some example queries with methods to generate them.

Example 1. [Who tested positive?](#) [This query is generated by putting "?" in "name" slot.]

Example 2. [Where did people test positive?](#) [This query is generated by putting "?" in "where" slot.]

Example 3. [Who tested positive that had close contact with Boris Johnson?](#) [This query is generated by putting "?" in "name" slot and "Boris Johnson" in "close contact" slot.]

We recommend using Chrome to get our demo work properly.

Enter Your Search Query

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Event Extraction as Slot Filling Questions

- Task: given a tweet with a set of candidate text spans, find the most appropriate one for a pre-defined list of slots of each event type

Tested Positive

Tested Negative

Death

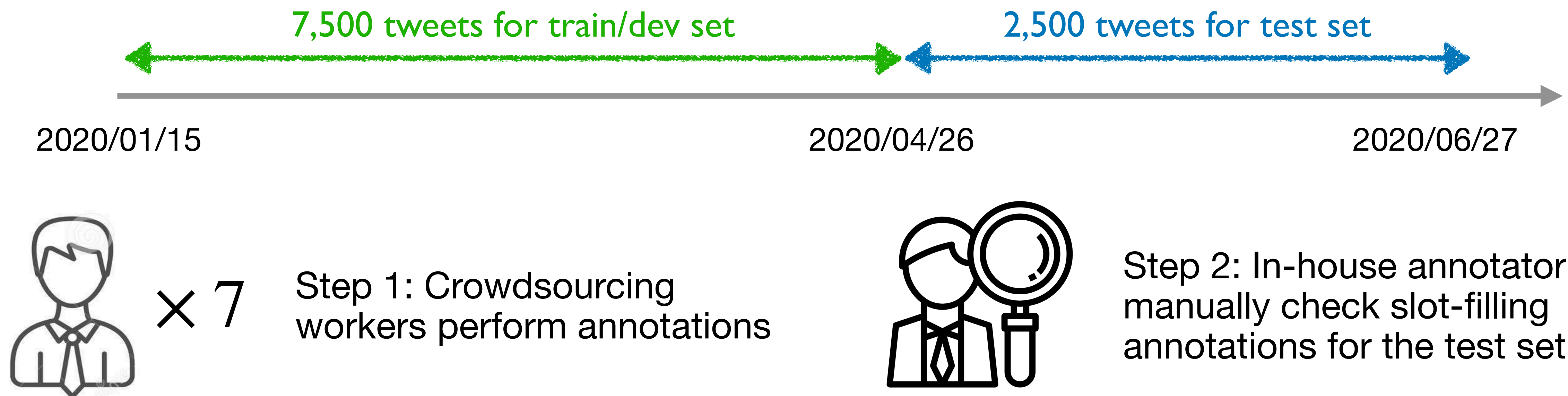
Can Not Test

Cure & Prevention

Event Type	Slot Abbr.	Slot Filling Questions
Tested Positive — Tested Negative	Who	Who is tested positive (negative)?
	Close contact	Who is in close contact with the person tested positive (negative)?
	Relation	Does the infected person have a relationship with the author of the tweet?
	Employer	Who is the employer of the people tested positive?
	Recent visit	Where did the people tested positive recently visit?
	When / Where	{When, Where} is tested positive (negative) cases reported?
	Age / Gender	What is the {age, gender} of the people tested positive (negative)?
	Duration	How long does it take to get to know the test results?

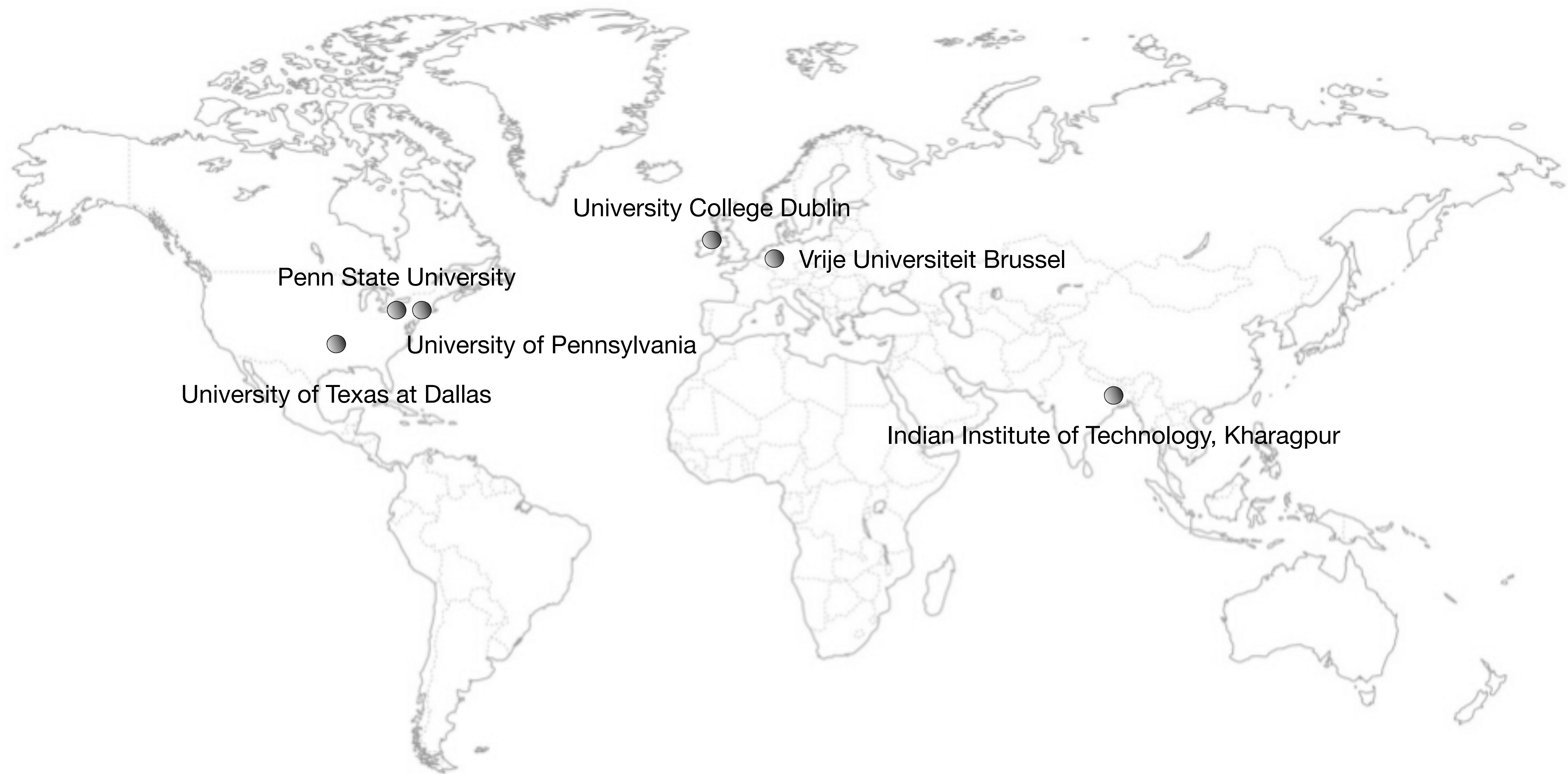
Linguistic Annotation

- 10,000 tweets annotated

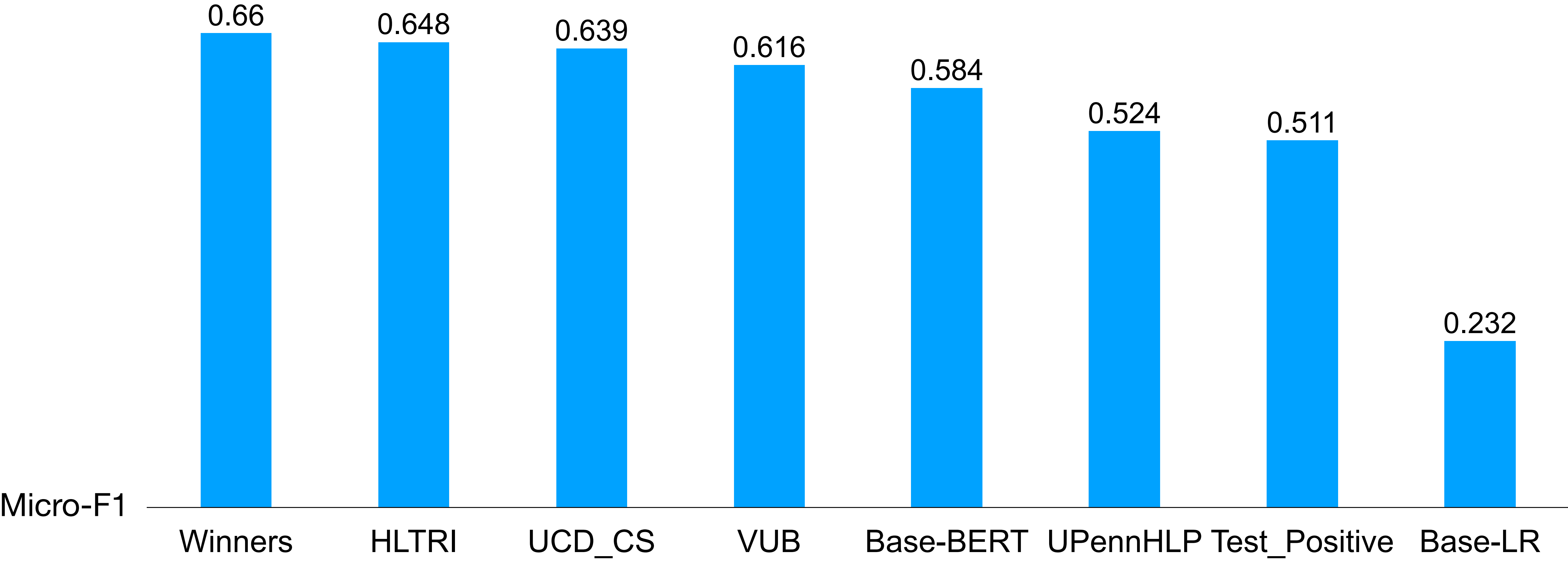


Annotations from crowdsourcing workers have an average of 0.72 F1 score for slot-filling with our in-house annotations

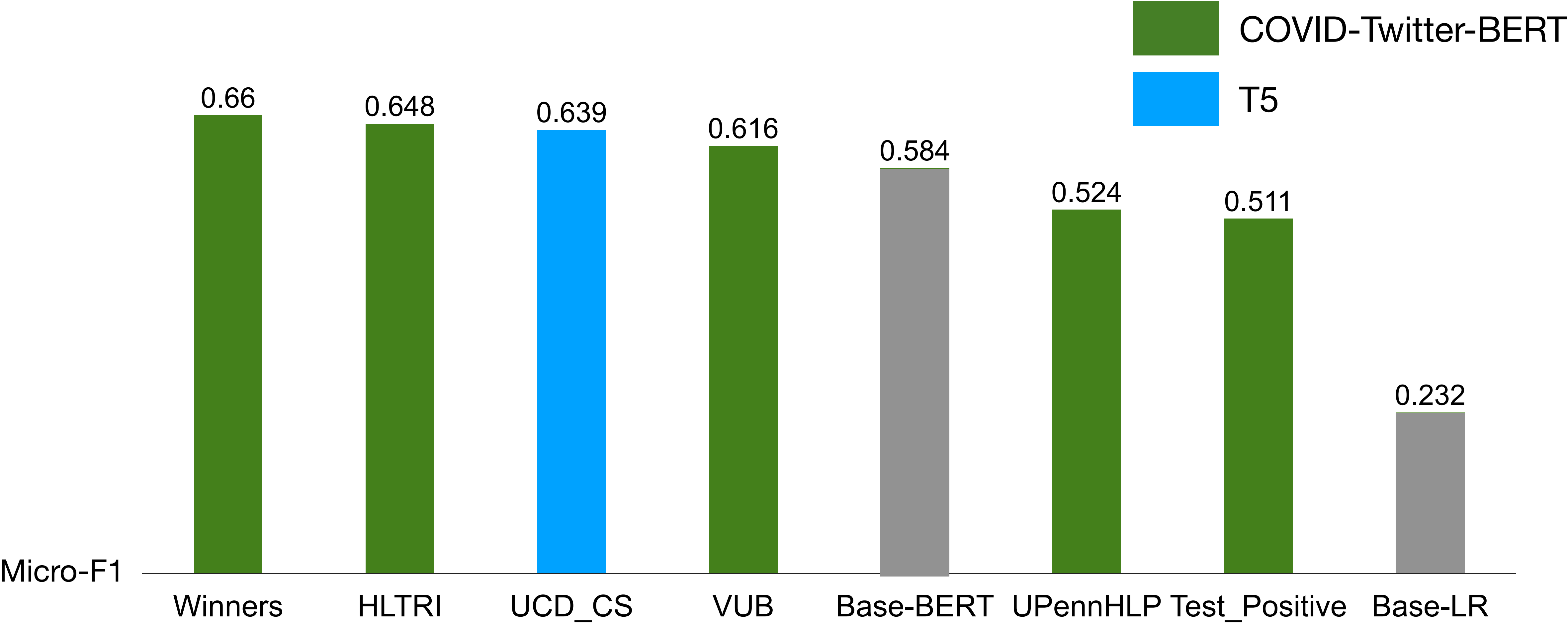
Shared Task at EMNLP W-NUT 2020



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Thank You for Participating!

- Check our annotated corpus at
https://github.com/viczong/extract_COVID19_events_from_Twitter
- Play with our semantic search system at
<http://kb1.cse.ohio-state.edu:8000/covid19/>