Supplementary Material for Explainable Modeling of Annotations in Crowdsourcing

An T. Nguyen
University of Texas at Austin
atn@cs.utexas.edu

Matthew Lease
University of Texas at Austin
ml@utexas.edu

Byron C. Wallace
Northeastern University
byron@ccs.neu.edu

We include screenshots of our Mechanical Turk task, with the list interface first, followed by the cluster interface.

Instructions

Background:

We had a task where workers looked at some text and found words that are proper nouns such as people name, organization names and places.

Now we want to know whether you can predict if a worker misses a word, after looking at labels by that worker.

Worker summary:

You will first look at a summary of the labels by a particular worker. You will see the sentences with the proper nouns in bold, and whether the worker misses each proper noun. For example:

Word	Miss
It's official: Obama attending **APEC** Summit in Manila	**YES**
The time is 05:30 **GMT**	**YES**

In the first row, APEC is an organization name and should be marked but the worker missed that. In the second row, the worker missed GMT (another all-uppercase word).

Task:

You will then answer some question. Each question contains two words; worker gave the correct labels for one of those and the wrong label for the other. Your task is to guess which word did the worker miss. For examples:

1. **New York** Metropolitan Opera suspends conductor James Levine

2. One dead after hit-and-run driver strikes six in Queens, **NY**

To help us understand your answer, please write a short explanation.

For example, if you believe the worker is not good at acronyms (all-uppercase words), you should select (2) and write the explanation "worker bad at acronyms". In contrast, if you believe the worker is good at acronyms, you should select (1) and write the explanation "worker good acronyms".

If you have absolutely no clue, you can select the option "Can't tell" and write the explanation "Cant' tell". But if you have any clue, you should not select this.

Hint:

We recomment that you pay attention to these features: acronyms, words that contain numbers or punctuations, and long sentences.

Try to find the features that the worker is good at and bad at.

You should spend about 5 minutes on each HIT. There will be a lot of sentences and words; you don't need to read them all carefully.

Some questions are difficulty, so give your best guess, don't worry about being wrong.

Summary of worker number 31

Word	Miss
Talks between Russia 's Alexander Lebed and **Chechen** separatist leaders were going well on Thursday and the two sides were working out a detailed schedule on how to stop the war , a Lebed aide said .	NO
Midfielders - Alexandre Comisetti (Grasshoppers) , Antonio Esposito (Grasshoppers) , Sebastien Fournier (Stuttgart) , Christophe Ohrel (Lausanne) , Patrick Sylvestre (Sion) , David Sesa (Servette) , Ciriaco Sforza (Inter Milan) Murat Yakin (**Grasshoppers**) .	NO
Police in Malta said on Saturday they had seized 7.5 tonnes of cannabis concealed in a shipment of chilli sauce on its way from **Singapore** to Romania .	NO
Fortuna **Sittard** 2 1 1 0 1 0 4	NO
He said that there are an estimated 800 **Polish** nurses working in Libya .	NO
It quoted an Interior Ministry statement as saying Shabir Ahmad **Muhammad** Jalil was executed in Mecca .	NO
5. Kenneth Eriksson (Sweden) Subaru **Impreza** 2:05	NO

Word	Miss
Midfielders - Alexandre Comisetti (Grasshoppers) , Antonio Esposito (Grasshoppers) , Sebastien Fournier (Stuttgart) , Christophe Ohrel (Lausanne) , Patrick Sylvestre (Sion) , David Sesa (Servette) , Ciriaco **Sforza** (Inter Milan) Murat Yakin (Grasshoppers) .	NO
Buffett raises Property **Capital** stake .	NO
Midfielders - **Alexandre** Comisetti (Grasshoppers) , Antonio Esposito (Grasshoppers) , Sebastien Fournier (Stuttgart) , Christophe Ohrel (Lausanne) , Patrick Sylvestre (Sion) , David Sesa (Servette) , Ciriaco Sforza (Inter Milan) Murat Yakin (Grasshoppers) .	NO
2:30.67 **Christine** Wachtel (Germany) Berlin 17.8.90	NO
Midfielders - Alexandre Comisetti (Grasshoppers) , Antonio Esposito (Grasshoppers) , Sebastien Fournier (Stuttgart) , Christophe Ohrel (Lausanne) , Patrick Sylvestre (Sion) , David Sesa (Servette) , **Ciriaco** Sforza (Inter Milan) Murat Yakin (Grasshoppers) .	NO
It quoted an Interior **Ministry** statement as saying Shabir Ahmad Muhammad Jalil was executed in Mecca .	YES
NOTE - Tokyo Soir Co**Ltd** is a specialised manufacturer of women s formal wear .	YES
Tokyo **Soir** - 1996 parent forecast .	YES
India 's Home (interior) Minister accused Pakistan on on Thursday of planning to disrupt state elections in troubled **Jammu** and Kashmir state .	YES
Omaha billionaire **Warren** Buffett said Friday he raised his stake in Property Capital Trust to 8.0 percent from 6.7 percent .	YES
NOTE - Tokyo Soir **Co** Ltd is a specialised manufacturer of women s formal wear .	YES
To bat : Inzamam-ul-Haq , Salim Malik , Asif Mujtaba ,**Wasim**	YES
It quoted an **Interior** Ministry statement as saying Shabir Ahmad Muhammad Jalil was executed in Mecca .	YES
Prime Minister H.D. Deve Gowda 's centre-left government hopes the elections will help restore normality and democratic rule in **Jammu** and Kashmir , where more than 20,000 people have died in insurgency-related violence since 1990 .	YES
The six-month trial was funded by the British Heart**Foundation** and Lichtwer Pharma GmbH , which makes Kwai brand garlic tablets .	YES
Akram , Moin Khan , Mushtaq Ahmed , Waqar Younis , Mohammad Akam	YES
Nancy 0 Paris **St** Germain 0	YES

Questions:

Which of the following words did worker number 31 miss?

○ Legia Warsaw 3 **GKS** Belchatow 2

○ **Legia** Warsaw 3 GKS Belchatow 2

○ Can't tell.

Explain (required):

[   ]

Which of the following words did worker number 31 miss?

○ Zaglebie Lubin 2 **LKS** Lodz 1

○ GKS Katowice 1 **Polonia** Warsaw 0

○ Can't tell.

Explain (required):

Which of the following words did worker number 31 miss?

○ **Rally** , sixth round of the world championship :

○ **GKS** Katowice 1 Polonia Warsaw 0

○ Can't tell.

Explain (required):

Which of the following words did worker number 31 miss?

○ Roda JC **Kerkrade** 2 0 2 0 2 2 2

○ **WARSAW** 1996-08-24

○ Can't tell.

Explain (required):

Which of the following words did worker number 31 miss?

○ **GENEVA** 1996-08-23

○ **Ajax** Amsterdam 2 1 0 1 1 2 3

○ Can't tell.

Explain (required):

Thanks for working for us. Do you have any comment?

Submit

Instructions

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Worker summary:

You will first look at a summary of the labels by a particular worker. You will see the sentences with the proper nouns in bold, and whether the worker misses each proper noun. For example:

Word	Miss
It's official: Obama attending **APEC** Summit in Manila	**YES**

Where APEC is an organization name and should be marked but the worker missed that. The sentences by that workers are given in some tables. Each table includes sentences that are similar. For example:

Table 1

Word	Miss
It's official: Obama attending **APEC** Summit in Manila	**YES**
The time is 05:30 **GMT**	**YES**
BME repeated in its latest review rumours of involvement by Sumitomo Corp	**YES**
This table has 50 rows (30%)	
Majority features: All characters are uppercases;	

In this table, you see three examples of sentences and the words that the worker missed. You also see that the table has 50 rows (3 are shown, 47 are not shown). These 50 rows correspond to 30% of the words that the worker missed. Tables with more rows may be more important and you may want to pay more attens. Lastly, you see the Majority feature: all characters are uppercases, meaning that the majority of sentences in this table have the bold word with that feature. This suggests that the worker here is not good at labeling all-uppercase words.

Notes:

A few tables are empty (you can ignore those). Some Majority features are also empty.

Task:

You will then answer some question. Each question contains two words; worker gave the correct labels for one of those and the wrong label for the other. Your task is to guess which word did the worker miss. For examples:

(1. **New York** Metropolitan Opera suspends conductor James Levine

(2) One dead after hit-and-run driver strikes six in Queens, **NY**

To help us understand your answer, please write a short explanation.

For example, if you believe the worker is not good at acronyms (all-uppercase words), you should select (2) and write the explanation "worker bad at acronyms". In contrast, if you believe the worker is good at acronyms, you should select (1) and write the explanation "worker good at all acronyms"

If you have absolutely no clue, you can select the option "Can't tell" and write the explanation "Cant' tell". But if you have any clue, you should not select this.

Hint:

We recomment that you pay attention to these features: acronyms, words that contain numbers or punctuations, and long sentences.

Try to find the features that the worker is good at and bad at.

You should spend about 5 minutes on each HIT. There will be a lot of sentences and words; you don't need to read them all carefully.

Some questions are difficulty, so give your best guess, don't worry about being wrong.

Summary of worker number 31

Table 1

Word	Miss
	YES
	YES
	YES
	YES
This table has 0 rows (0%)	
Majority features:	

Table 2

Word	Miss
The six-month trial was funded by the British Heart**Foundation** and Lichtwer Pharma GmbH , which makes Kwai brand garlic tablets .	YES
Omaha billionaire Warren Buffett said Friday he raised his stake in Property Capital**Trust** to 8.0 percent from 6.7 percent .	YES
Omaha billionaire **Warren** Buffett said Friday he raised his stake in Property Capital Trust to 8.0 percent from 6.7 percent .	YES
The six-month trial was funded by the British**Heart** Foundation and Lichtwer Pharma GmbH , which makes Kwai brand garlic tablets .	YES
This table has 8 rows (29%)	
Majority features: Long sentence (more than 20 words);	

Table 3

Word	Miss
Ajax Amsterdam 2 1 0 1 1 2 3	YES
Heerenveen 2 **Ajax** Amsterdam 0	YES
GKS Katowice 1 **Polonia** Warsaw 0	YES
NOTE - Tokyo **Soir** Co Ltd is a specialised manufacturer of women s formal wear .	YES
This table has 19 rows (70%)	
Majority features:	

Table 4

Word	Miss
U.S. F-14 catches fire while landing in**Israel** .	NO
Fortuna Sittard 2 1 1 0 1 0 4	NO
Aamir Sohail c Cork b Croft 46	NO
India has often accused Pakistan of abetting militancy in the valley , a charge Islamabad has always denied .	NO
This table has 255 rows (59%)	
Majority features:	

Table 5

Word	Miss
Defenders - Stephane Henchoz (Hamburg) , Marc Hottiger (Everton) , Yvan Quentin (Sion) , Ramon Vega (Cagliari) **Raphael** Wicky (Sion) .	NO
Midfielders - Alexandre Comisetti (Grasshoppers) , Antonio Esposito (Grasshoppers) , Sebastien Fournier (Stuttgart) , Christophe **Ohrel** (Lausanne) , Patrick Sylvestre (Sion) , David Sesa (Servette) , Ciriaco Sforza (Inter Milan) Murat Yakin (Grasshoppers) .	NO
They are making their first visit to the island since boycotting a World**Cup** fixture in February because of fears over ethnic violence .	NO
Police in Malta said on Saturday they had seized 7.5 tonnes of cannabis concealed in a shipment of chilli sauce on its way from **Singapore** to Romania .	NO
This table has 130 rows (30%)	
Majority features: Long sentence (more than 20 words);	

Table 6

Word	Miss
Willem **II** Tilburg 2 0 1 1 0 1 1	NO
Linzer ASK 1 **FC** Tirol Innsbruck 3	NO
FC Linz 6 0 2 4 1 9 2	NO
Linzer **ASK** 1 FC Tirol Innsbruck 3	NO
This table has 41 rows (9%)	
Majority features: All characters are uppercases;	

Questions:

Which of the following words did worker number 31 miss?

○ Legia Warsaw 3 **GKS** Belchatow 2
○ **Legia** Warsaw 3 GKS Belchatow 2
○ Can't tell.

Explain (required):

Which of the following words did worker number 31 miss?

○ Zaglebie Lubin 2 **LKS** Lodz 1
○ GKS Katowice 1 **Polonia** Warsaw 0
○ Can't tell.

Explain (required):

Which of the following words did worker number 31 miss?

○ Zaglebie Lubin 2 **LKS** Lodz 1
○ GKS Katowice 1 **Polonia** Warsaw 0

○ Can't tell.

Explain (required):

[   ]

Which of the following words did worker number 31 miss?

○ Roda JC **Kerkrade** 2 0 2 0 2 2 2
○ **WARSAW** 1996-08-24
○ Can't tell.

Explain (required):

[   ]

Which of the following words did worker number 31 miss?

○ **GENEVA** 1996-08-23
○ **Ajax** Amsterdam 2 1 0 1 1 2 3
○ Can't tell.

Explain (required):

[   ]

Thanks for working for us. Do you have any comment?

[   ]

[Submit]