

Safety In Tweets

A tool for Venezuelans to gauge the risk of violence during protests in real time

Major anti-government protests since 2017







Fawaz Rashed

@FawazRashed

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"We use Facebook to schedule the protests, Twitter to coordinate, and YouTube to tell the world." #egypt #jan25

6:04 PM - 18 Mar 2011

33 Retweets 21 Likes



1 33 21



¡PAJARRACO DEL COÑO! ¡SOLO ME FALTAS TÚ!



Is this protest
likely to turn violent soon?

#VzlaEnLaCalle
04/19/2017



Is this protest
likely to turn violent soon?

#VzlaEnLaCalle
04/19/2017



Is this protest likely to turn violent soon?

Txapu\ ... /Sapiens
@txapulincolorid

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Cuando hay una protesta popular la vigilancia es total, los otros días matan a un venezolano cada 20 min.

#Venezuela
#19Abr
#19VzlaEnLaCalle

Translate Tweet

6:47 AM - 19 Apr 2017

389 Retweets 177 Likes

9 389 177

Is the sentiment of the tweet high or low?

Do photos (if any) show violence?

Sentiment analysis with Microsoft Azure Text Analytics API

Convolutional Neural Network with Microsoft Resnet50

Is this protest likely to turn violent soon?

Txapu\ ... /Sapiens
@txapulincolorid

Follow

Cuando hay una protesta popular la vigilancia es total, los otros días matan a un venezolano cada 20 min.

#Venezuela
#19Abr
#19VzlaEnLaCalle

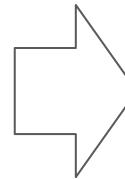
Translate Tweet

6:47 AM - 19 Apr 2017

389 Retweets 177 Likes

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Is the sentiment of the tweet high or low?



Hourly-averaged emotions

Do photos (if any) show violence?

Training & testing dataset

Date	Hashtag	Casualties	Time of violence
02/12/2014	#12F	3 dead	7:00pm
02/19/2014	#19F	2 dead	2:00pm
06/09/2016	#ElLanito	1 dead, looting	10:00am
10/26/2016	#YoReportoEl26O	1 dead, 120 injured	unknown
04/19/2017	#19VzlaEnLaCalle	3 dead, 521 arrested	11:50am, 4:35pm
05/20/2017	#MillonesContraLaDictadura	1 dead, 90+ wounded	~2:00pm
05/24/2017	#24Mayo	1 set on fire (survived)	~1:00pm
01/21/2019	#21Ene	1 dead, 20+ arrested	9:20pm
02/23/2019	#23Feb	4 dead, 285 injured	11:00am

Training & testing dataset

Date	Hashtag
02/12/2014	#12F
02/19/2014	#19F
06/09/2016	#ElLanito
10/26/2016	#YoReportoEl26O
04/19/2017	#19VzlaEnLaCalle
05/20/2017	#MillonesContraLaDictadura
05/24/2017	#24Mayo
01/21/2019	#21Ene
02/23/2019	#23Feb

Implementation dataset

Leonardo León  @leoperiodista [Follow](#) ▾

#3May. Fuerte protesta con cierre de la vía Panamericana a la altura de el puente sobre el río Capazón...en Santa Elena de Arenales. Mcpio Obispo Ramos de Lora..Los vecinos exigen Gas doméstico

[Translate Tweet](#)

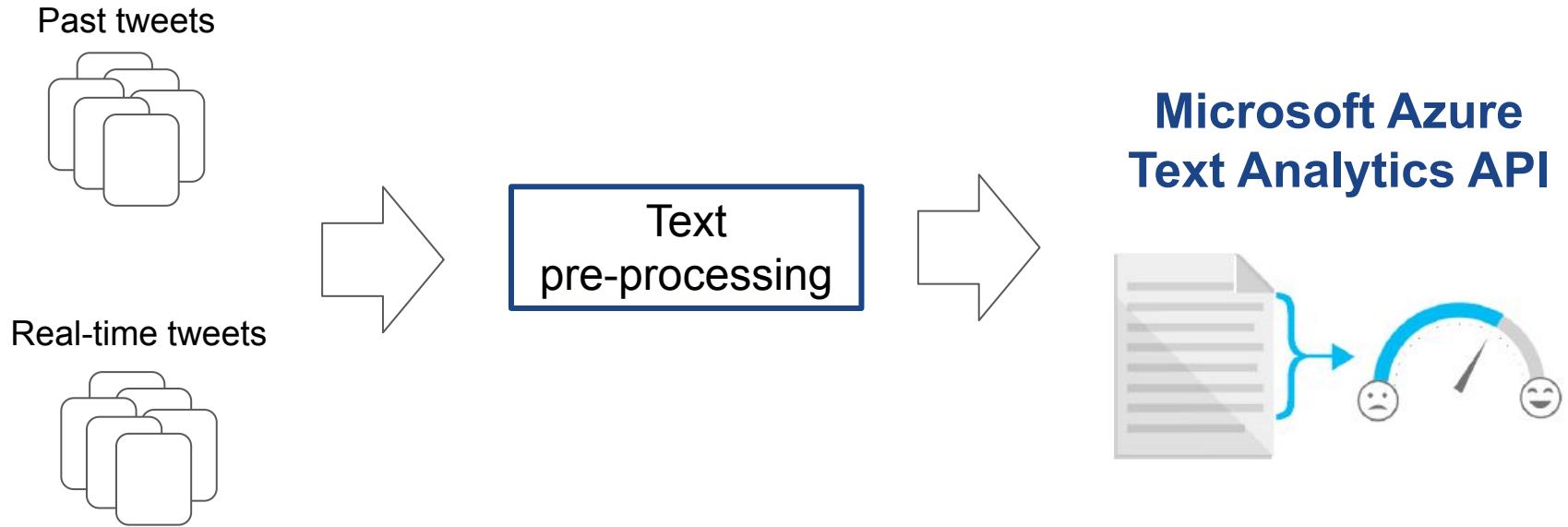


8:55 AM - 3 May 2019

8 Retweets 2 Likes

1 8 2

Flowchart of **sentiment analysis** of tweets (text)



#EILlanito

06/09/2016

diasjon tendencia ciudadanos
ahora camion proveniente mientras deception
llorazuela mientra noticia
tamanaco paolucci caos atracando colectivos
solto disparando resguardo alejoruz caracas
fuente es aarondiazve venezuela
av intento
rt
hoy
hambre
junio
via
mismo

#ELlanito

06/09/2016

attempt
looting

stealing today
chaos

now truck
video
released shooting
hunger
same

#EILlanito
06/09/2016

Venezuela announces new plan to tackle food crisis

🕒 9 June 2016



There have been daily protests across the country over food shortages and incidents of looting.

On Monday there were reports that a woman died after being hit by a stray bullet when police opened fire on looters trying to ransack a warehouse in the western city of San Cristobal.

High sentiment tweets



Low sentiment tweets



High sentiment tweets

Low sentiment tweets

Flowchart of **sentiment analysis** of photos



Peaceful

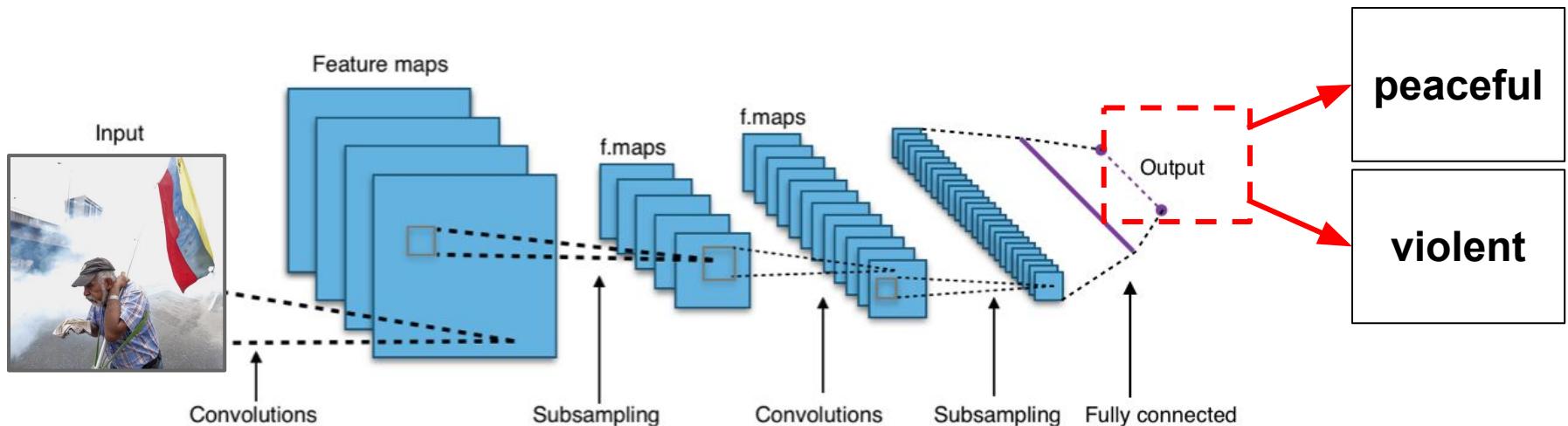


Violent

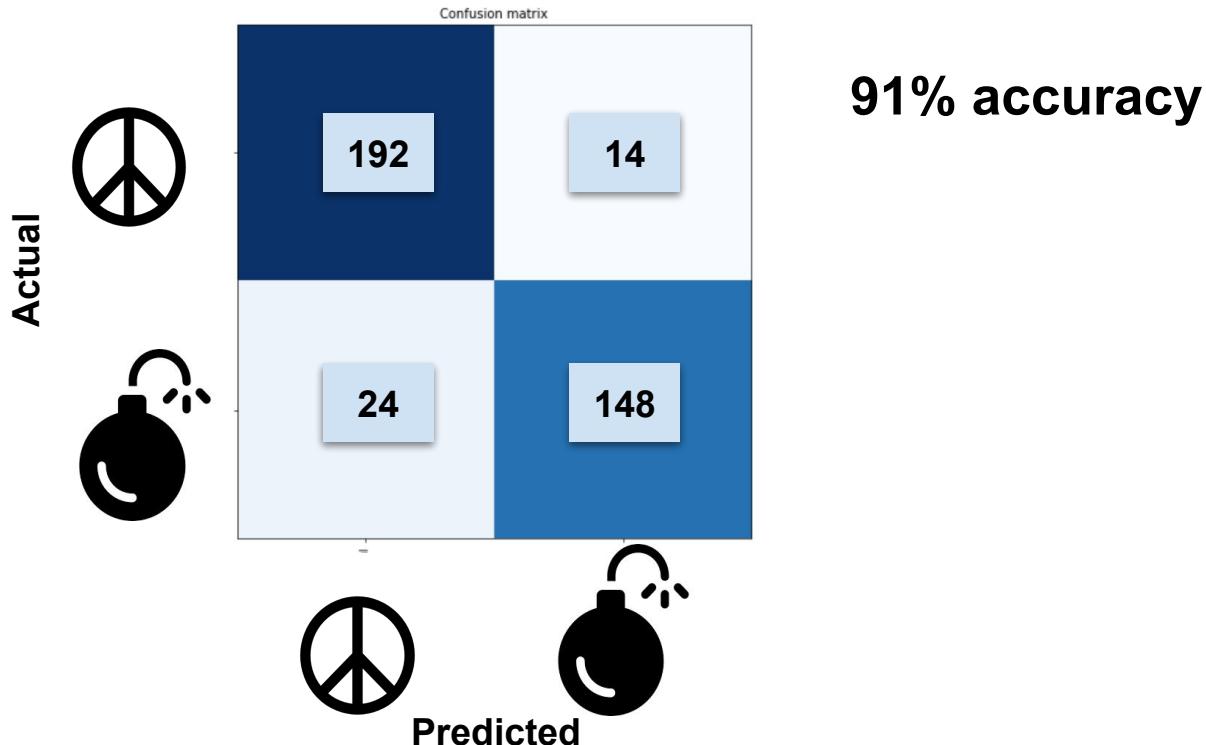




Flowchart of sentiment analysis of photos



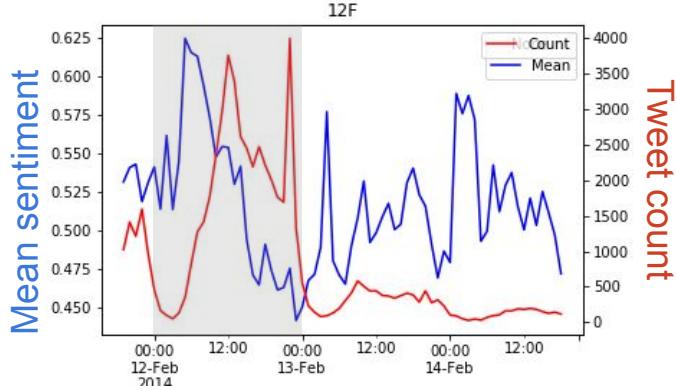
Flowchart of sentiment analysis of photos



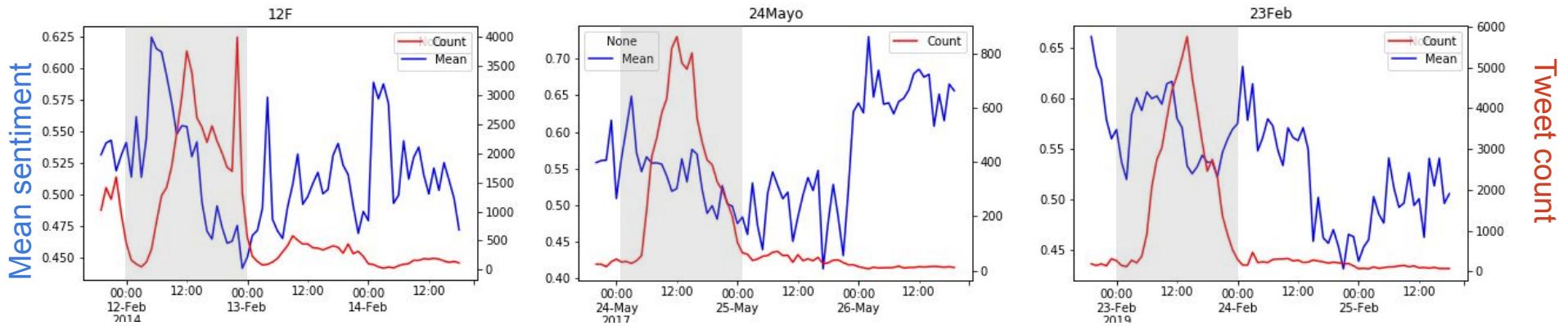
Flowchart of sentiment analysis of photos



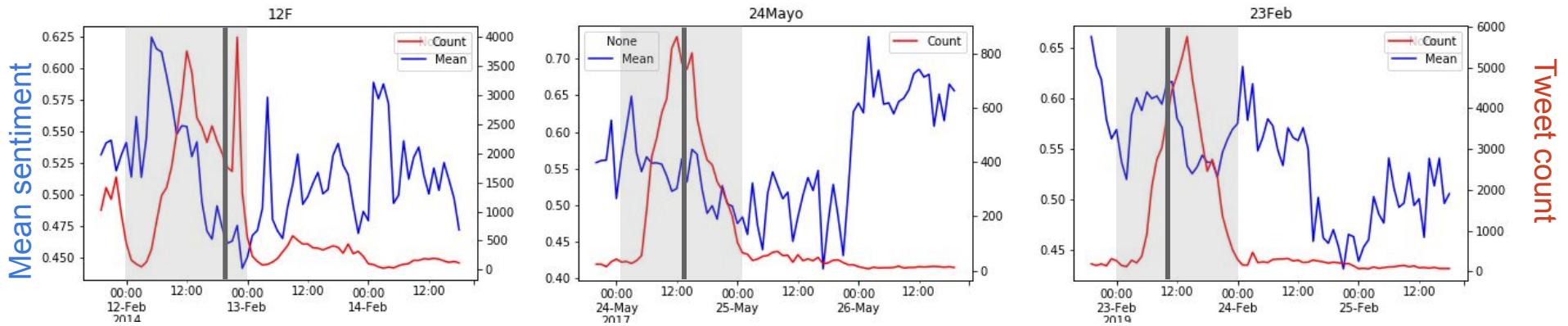
Changing sentiment of tweets during protests



Changing sentiment of tweets during protests

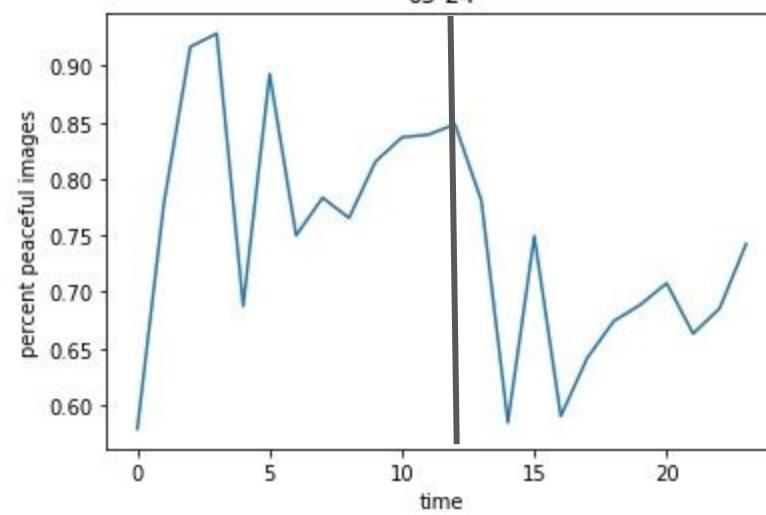
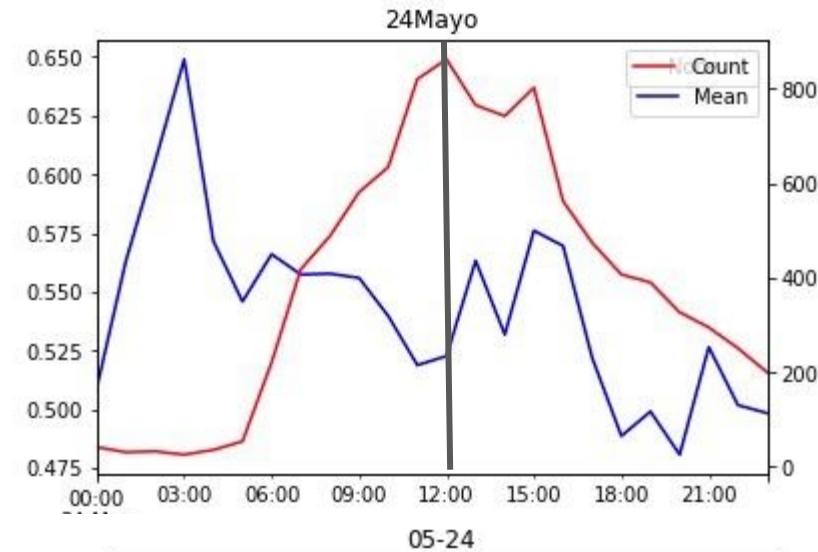


Changing sentiment of tweets during protests



Changing sentiment

% Peaceful Images



NetBlocks.org: Platform Reachability, Venezuela - VE, past 15 minutes, 2019-04-30

cca2	country	asname	platform	state	failure_rate	reachability
VE	Venezuela	CANTV Servicios, Venezuela, VE	periscope	DOWN	<div style="width: 0%; background-color: #f08080;"></div>	0%
VE	Venezuela	CANTV Servicios, Venezuela, VE	soundcloud	DOWN	<div style="width: 0%; background-color: #f08080;"></div>	0%
VE	Venezuela	CANTV Servicios, Venezuela, VE	twitter	DOWN	<div style="width: 19%; background-color: #f08080;"></div>	19%
VE	Venezuela	CANTV Servicios, Venezuela, VE	pscp	DOWN	<div style="width: 32%; background-color: #e6c080;"></div>	32%





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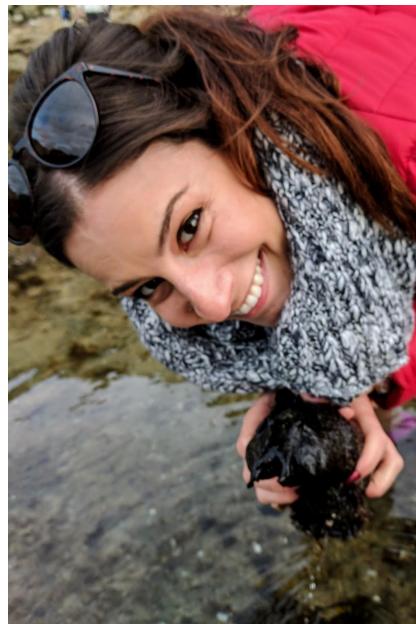
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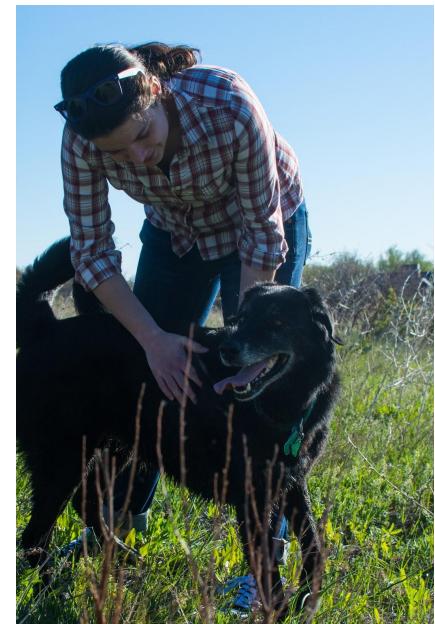
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IDX 19A

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