

# UC Berkeley

## Recent Work

### Title

Inquired Truth: Human Rights Center Open Source Investigation Methodology

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# New Media Masters Thesis

By: Boikanyo Tefu | Editor: Andrea Lampros | Thesis Advisor: Jeremy Rue | Reader: Richard Hernandez

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INSTITUTION: UC Berkeley Graduate School of Journalism

CONCENTRATION: New Media Master's Thesis

TOPIC: Journalism at the Intersection of Open Source Intelligence and Multimedia Story Forms

TITLE: Inquired Truth: Human Rights Center Open Source Investigation Methodology

PRESENTATION TYPE: Video

## ABSTRACT

### Background

The [Human Rights Center](#) at the UC Berkeley School of Law is a human rights nonprofit organization that trains students, in the [Human Rights Center Investigations Lab](#), how to use open source intelligence to investigate human rights abuses in the international community. Open source intelligence is “data and information that is available to the general public,” according to [Recorded Future](#), a research and security intelligence company. The Human Rights Center recently introduced multimedia story forms to its curriculum to show how students researchers conduct open source investigations.

### Objective

This capstone project, *Inquired Truth*, uses multimedia story forms to show the research methods used to conduct open source investigations. The storytelling techniques aim to create informative, resourceful, and entertaining videos. The multimedia package highlights three major case studies the lab students conducted. Creating the videos also indicates how multimedia tools can develop OSINT reports into stories with journalistic value.

### Research Methods

I produced a short form video series modeled after a variety of visual techniques created by AJ Plus, NowThis News, BBC Africa and Vox explainer videos. Each case study had two versions of the same video, version A included English captions, background music, and no voiceover. In addition to a voiceover, version B included the same music and captions.

I conducted A/B testing for each case study to gauge which storytelling method was more effective. I created a survey with a total of eight videos, pairing version A and B of each case study, followed by a multiple choice question asking the lab students which video they preferred for learning purposes.

The first case study, *Hate Speech in Myanmar*, shows how Facebook was used as a tool for hate speech against the Rohingya people, a minority Muslim population in Myanmar. The lab students' research contributed to Reuters journalist Steve Stocklow's Pulitzer Prize winning [story](#) for international reporting in 2019.

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The second case study, *Protests in Sudan*, covers the 2018 Sudense uprising. Lab students investigated the excessive use of force on demonstrators by the Sudansese Rapid Support Forces under the orders of former president Omar al-Bashir. The student researchers collaborated with Dr. Rohini Haar of Physicians for Human Rights who published a [report](#) verifying that the paramilitary group attacked hospitals and peaceful protesters.

The third case study, *Chemical Weapons in Syria*, is a two-part video about chemical attacks on targeted locations, including a surgical hospital, in al-Lataminah, Syria. The lab students published a report corroborating witness testimonies that chemical weapons were used during the attacks in March 2017.

## **Results**

My analysis of the data shows that more than 94 percent of the lab students preferred version B of each case study. The results of the A/B testing experiment indicated that students in the investigations lab preferred videos with English captions, background music, and a voiceover. In conclusion, the A/B test confirmed that multimedia story forms add journalist value to open source investigations.

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## *Inquired Truth Video Scripts*

### **1. Hate speech in Myanmar**

(Last edited 4/29/2020)

<b>Time/minute mark (min:sec)</b>	<b>Title</b>	<b>Text/Caption/VO</b>
00:03 - 00:07	Main Title	Hate Speech in Myanmar: Open Source Investigation Methodology
00:09 - 00:14	Subtitles	Information gathering, collection and verification, reporting
00:14 - 00:20	Content disclaimer (VO starts here)	Content Disclaimer This video includes sensitive material from an open source investigation about hate speech in Myanmar.
00:20 - 00:26		Reuters journalist Steve Stecklow partnered with students in the Human Rights Center Investigations Lab
00:26 - 00:32		to research the use of hate speech on Facebook against Rohingyas in Myanmar.
00:33 - 00:39		During 2016 and 2017, Facebook was the most popular social media platform in Myanmar,
00:39 - 00:45		it was the main channel where hate speech against Rohingya and other ethnic and religious minorities spread.
00:46 - 00:54		Facebook's definition of hate speech according to its website. "We define hate speech as a direct attack on people based on what we call protected characteristics

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00:54 - 01:07		race, ethnicity, national origin, religious affiliation, sexual orientation, caste, sex, gender, gender identity, and serious disease or disability."
01:08 - 01:14		In the wake of the 2017 violence that spurred more than 650,000 Rohingya to flee,
01:14 - 01:21		Facebook representatives said that content was removed from its platform for violating its community standards.
01:23 - 01:30		Despite these take-downs, Stecklow showed that hate speech related to the Rohingya persisted on Facebook.
01:31 - 01:40	Subtitle	Information gathering: search online and identify open source content relevant to the investigative objective. In this case: advanced searches on Facebook.
01:42 - 01:50		Stecklow and the team of students in the lab compiled a list of keywords and phrases used to identify hate speech on the platform.
01:51 - 01:58		The search terms sometimes lead to irrelevant information. For example, results for key terms "animals" and "dog" were not always relevant.
01:59 - 02:08		The term "kalar" can also have double meaning in Myanmar, depending on context. It can mean "friend," but it can also be a racist slur meaning "dog."
02:09 - 02:15		The team revised the keywords with assistance from a native Burmese

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		speaker, who also worked as the resident translator.
02:18 - 02:27		The team's initial goal was to find and verify at least 30 relevant posts per day to conclude with about 500 posts by the end of the investigation.
02:29 - 02:37		The team ended up collecting at least 80 posts per day, leading to over 1,200 posts by the end of the investigation.
02:47 - 02:53	Subtitle	Collection: capturing and preserving content with relevant metadata to establish authenticity.
02:56 - 03:02		The team used Google docs and excel spreadsheets to document and track their findings. They took screenshots of posts.
03:02 - 03:08		Archiving tools might be used at this stage to preserve information that could be taken off the internet.
03:15 - 03:20	Subtitle	Verification: evaluating the reliability of sources and content.
03:25 - 03:35		In addition to the translator and the list of keywords, the team established a precise vetting system to help identify which posts expressed hate speech.
03:42 - 03:51		In most cases the posts were hate speech — 1,000 out of the 1,200 posts were determined to be hate speech based on the definition by Facebook.
03:53 - 04:06	Subtitle	Reporting: present the data and findings based on the data, noting any limitations or deficiencies in the data.

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		In this case examples of hate speech on Facebook that violate the platform's terms of service.
04:10 - 04:18		The team discovered 1,000 Facebook posts with hate speech indicating that Facebook's guidelines were ineffective in addressing hate speech.
04:19 - 04:25		Facebook revised its community guidelines following the publication of the Hatebook article on Myanmar.
04:26 - 04:30		Facebook pledged a stronger vetting system to remove hate speech from its platform.
04:34 - 04:43	(VO ends here)	The students' research contributed to Reuters' Pulitzer prize winning project for international reporting, along with Stecklow and other journalists.
04:45 - 04:50	(closing title - social media)	Follow us

## 2. Protests in Sudan

(Last edited 4/29/2020)

Time/minute mark (min:sec)	Title	Text/Caption/VO
00:00 - 00:04	Main Title	Protests in Sudan: Open Source Investigation Methodology
00:05 - 00:09	Subtitle	<ol style="list-style-type: none"> <li>1. Fact find</li> <li>2. Verify and Geolocate</li> <li>3. Report</li> </ol>
00:10 - 00:15	Content disclaimer (VO starts here)	This video includes sensitive material from an open source investigation about protests in Sudan.



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00:15 - 00:22		Dr. Rohini Haar of Physicians for Human Rights, partnered with students from the lab to investigate the June 2019 protests in Sudan.
00:23 - 00:31		The team investigated the excessive use of force on protesters by Sudanese Rapid Support Forces under former President Omar al-Bashir.
00:32 - 00:37		Dr. Haar and the lab students compiled the following investigative questions.
00:38 - 00:42		Where and how are the Sudanese forces committing human rights violations?
00:42 - 00:46		What facilities are the Sudanese forces targeting? And why?
00:48 - 00:52	Subtitle	Fact Find Find context from open source intelligence.
00:54 - 01:01		The team used tools such as Twitter, Tweetdeck, YouTube, Google sheets and Facebook to find relevant information online.
01:03 - 01:09		Sudanese Rapid Support Forces attacked several “safe zones” where demonstrators had congregated.
01:10 - 01:15		These “safe zones:” include a hospital in Omdurman and the University of Sudan in Khartoum.
01:17 - 01:22		Verification Confirming the accuracy of open source data.
01:24 - 01:30		This video from Twitter appears to show one of the targeted locations, a hospital in Omdurman.

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01:45 - 01:49	Subtitle	Geolocation Finding the location where the incident occurred.
01:52 - 01:56		Geolocate the location of the hospital using Google Earth Pro
02:15 - 02:21		Corroborate the information using landmarks, road signs, and other visible clues.
02:30 - 02:37		A video from Twitter shows university students escape from different buildings after a gas attack on their campus.
02:55 - 03:00		Geolocate the location of the university using Google Earth Pro.
03:34 - 02:41		Verify the findings using landmarks and other buildings in and around the university's campus.
03:53 - 03:59		A second video from Twitter shows students running out of the buildings to escape the gas attack.
04:02 - 04:09		Other verification tools include Wolfram Alpha, which helps estimate what time an incident occurred.
04:31 - 04:44		Report Gather and consolidate information and potential evidence. Use multiple working hypotheses to assess the information. Share what we can know with a level of certainty and what we do not know.
04:46 - 04:53		Dr. Rohini and the team of lab students compiled a report that was published by Physicians for Human Rights.
04:55 - 05:02		The report relied on physical and electronic information, in addition to

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		witness testimonies.
05:06 - 05:11		The published report had great impact in the international community.
05:13 - 05:20	(VO ends here)	The report was referenced in over 200 news articles following the protests in Sudan.
05:38 - 05:40	(closing title - social media)	Follow us

### 3. Chemical weapons in Syria: Part II

(Last edited: 4/29/2020)

<b>Time/minute mark (min:sec)</b>	<b>Title</b>	<b>Text/Caption/VO</b>
00:00 - 00:05	Main Title	Chemical Attacks in Syria Open Source Investigation Methodology
00:07 - 00:10	Subtitle	Discovery Verification
00:12 - 00:18	Content Disclaimer (VO starts here)	This video includes sensitive material from an open source investigation about chemical attacks in Syria.
00:19 - 00:23		Students from the investigations lab partnered with the Syrian Archive,
00:23 - 00:31		an open-source platform that collects, curates, verifies, and preserves visual documentation of human rights violations in Syria.
00:32 - 00:41		The investigations team looked for various pieces of open source information regarding a possible chemical weapons attack in al-Lataminah in March 2017.
00:42 - 00:50	Subtitle	Discovery Search for visual content uploaded

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		onto social media platforms with regards to a specific incident and its aftermath.
00:51 - 00:55		Notice the blue lines on the wall at the entrance of the hospital.
00:56 - 01:01		This YouTube video shows the aftermath of a chemical attack on March 25, 2017.
01:02 - 01:09		The yellow cylinder is remnants of chlorine munition that were reportedly dropped through the roof on the same day of the attack.
01:10 - 01:16		According to witness testimonies, the yellow cylinder is one of two chemical weapons that were dropped on that day.
01:19 - 01:23		This second video corroborates portions of the previous video.
01:26 - 01:32		Blue lines similar to the ones in the previous video are seen in the background of this White Helmets volunteer.
01:42 - 01:49		A helicopter that was recorded to be flying around the village of al-Lataminah in Hama on the day of the attack.
02:00 - 02:08		A sign on the wall written in Arabic, reading “alLataminah Surgical Hospital - created and founded by Jaysh al-Ezza.”
02:17 - 02:24		Notice the hole in the roof of the hospital, this exact hole appeared in a few Twitter searches conducted using Tweetdeck.
02:30 - 02:39		Videos 1 and 2 show alLataminah Surgical Hospital, located south of

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		al-Lataminah, after the March 25 chemical attack.
02:42 - 02:50		Verification Cross check open source information with other visual sources and content that corroborates existing visual material.
02:51 - 02:53	Label	Blue lines at the entrance of the hospital.
02:58 - 03:01	Label	The same blue lines at the entrance strongly suggest that it's the same hospital.
03:14 - 03:18		This airplane was seen on March 25, the same day as the first attack.
03:19 - 03:23		Witnesses saw a similar airplane on March 30 when the second attack happened.
03:25 - 03:33		The lab team was able to identify the helicopter as likely to be Mil-Mi8/17 helicopters.
03:34 - 03:40		We compared the schematics of Syrian Air Force aircrafts with the undersides of the airplane visible in the video.
03:41 - 03:50		We were able to identify five-blade propellers with protruding rear landing wheels and appropriate relative blade length.
03:52 - 03:58		This hole in the roof of the hospital appeared in the video and was also uploaded as a picture on Twitter.
04:00 - 04:08		This YouTube video shows a cylinder-shaped munition similar to the previous video and corroborates witness accounts of chemical attacks.
04:09 - 04:16		Witnesses of the chemical attack on

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		March 25 saw similar yellow cylinders around the hospital and in the surrounding area.
04:18 - 04:26		Another YouTube video shows a yellow cylinder munition matching the two previous videos strongly suggesting that chemical weapons were used during the attacks.
04:27 - 04:32		Pictures similar to this yellow cylinder munition were uploaded to Twitter by the White Helmets.
04:33 - 04:40		The 'CL2' labeled on the cylinder is the chemical formula for chlorine, which indicates the use of chemical weapons.
04:43 - 04:47		This picture from Twitter shows chlorine residue left on the munition.
04:49 - 04:52		Hazard signs warning inspectors to be cautious when observing the munition.
04:52 - 04:59	(VO ends here)	The inspector is also wearing a hazard suit to prevent harm from the chemical residue on the munition.
05:00 - 05:03		... to be continued in part II of Chemical Attacks in Syria.
05:03 - 05:07	Closing title (social media)	Follow us

## 4. Chemical weapons in Syria: Part II

(Last edited: 4/29/2020)

Time/minute mark (min:sec)	Title	Text/Caption/VO
00:00 - 00:05	Main title	Chemical Attacks in Syria Open Source Investigation Methodology

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		Part II
00:07 - 00:11	Subtitle	<ol style="list-style-type: none"><li>1. Geolocation</li><li>2. Chronolocation</li></ol>
00:12 - 00:18	Content Disclaimer (VO starts here)	This video includes sensitive material from an open source investigation about chemical attacks in Syria.
00:20 - 00:29		In part two of the investigation, lab students used geolocation and chronolocation methods to verify when and where the attacks happened.
00:30 - 00:35		Witnesses reported another chemical attack on March 30, 2017 in al-Lataminah.
00:37 - 00:41		This is the same village in which a hospital was attacked on March 25.
00:42 - 00:46	Label	Al-Lataminah is a village in the Hama Governorate in Syria.
00:48 - 00:55		Geolocation Identifying the exact location where an incident occurred using satellite imagery from mapping tools.
00:58 - 01:05		This video was posted shortly after the attack on March 30 and it also features audio of a jet plane.
01:06 - 01:15		Our geolocation findings corroborate witness statements that the attack on March 30 was carried out by a plane rather than a helicopter.
01:20 - 01:25		The smoke plumes are clues that helped the team geolocate where the chemical weapons struck.
01:26 - 01:32		Key details from this video show the aftermath of the March 30 chemical attacks in al-Lataminah.
01:34 - 01:41		Information gathered through geolocation

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		suggests that these attacks targeted the countryside just south of al-Lataminah.
01:44 - 01:50		The students identified landmarks that include two distinct lines of trees, recognizable hills and slopes, a faint city landscape, and a curved road.
01:53 - 02:02		In this Al Jazeera YouTube video, White Helmets volunteers are out in the field inspecting the area after the attack.
02:05 - 02:12		The yellow cylinder-shaped munition found in the area has similar features to the cylinders identified in previous videos.
02:17 - 02:26		The inspectors in the video appear to be looking for any residue of chemical weapons and other toxic substances, according to an Al Jazeera news interview.
02:30 - 02:36		The students used satellite imagery from Google Earth Pro to geolocate distinct landmarks in southern al-Lataminah.
02:48 - 02:55		Using lines of trees and other landmarks, lab students were able to geolocate the video to two specific locations.
02:58 - 03:05		Some noticeable landmarks include two lines of trees at particular elevations on a distinct, uneven mountainous terrain.
03:15 - 03:24		Google Earth satellite imagery depicted complementary geographic features, including the lines of trees and relevant hills and slopes.
03:25 - 03:33	Subtitle	Chronolocation Estimating the date and time of an incident using digital tools and databases.
03:35 - 03:41		This second YouTube video shows



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		inspectors out in the field checking the area for any toxic substances.
03:43 - 03:47		Also note that the weather conditions in this video appear to be partly cloudy.
03:49 - 03:57		The lab students used Wolfram Alpha, a mathematics based search engine, to chronolocate the weather on the day that the second attack occurred.
03:58 - 04:02		Wolfram Alpha confirmed that the weather was partly cloudy on March 30.
04:04 - 04:08		The weather conditions in this video are consistent with the search results.
04:09 - 04:17		Through the open source investigation, the lab students were also able to confirm that chemical weapons were used to target a local hospital.
04:18 - 04:29		In conclusion, the open source investigation verified facts related to the use of chemical weapons during the March 25 and March 30, 2017 attacks in al-Lataminah, Syria.
04:30 - 04:33	Closing title (social media)	Follow us