

# Forensic Architecture

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# What is 'forensic architecture'?

Forensic Architecture is the label for a developing academic field based at and created by Goldsmiths University in London. The study uses spatial and media investigations to help communities affected by political violence, human rights organisations, international prosecutors, environmental justice groups, and media organisations.

The field produces and presents architectural evidence from buildings and urban environments to support victims in legal and political processes.

FA is run by intellectual architect Eyal Weizman

## How it works

FA uses the construction of digital and physical models, 3D animations, virtual reality environments and cartographic platforms in combination with evidence from crimes to reconstruct and present violent events in court.

They also use their work to learn more about the relationship between one's access to memory and experience with trauma.

## LIKES

Using technology to help  
victims and expose  
injustices, transparency

## DISLIKES

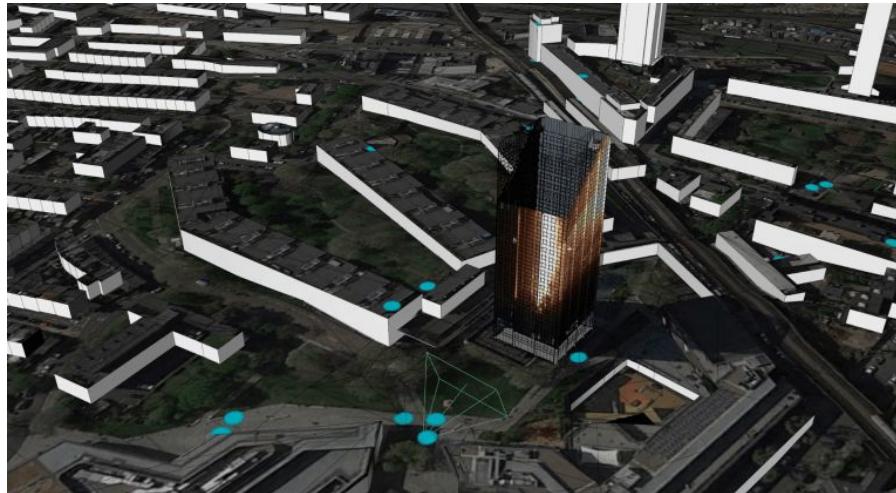
Structural violence,  
corporate capitalism,  
human rights violations

## Why is this important

FA helps to expose the structural and environmental injustices in marginalized communities. The field study presents injustices as factual evidence on behalf of victims of human rights violations and environmental issues.

# Examples

# THE GRENFELL TOWER FIRE



Using cellphone videos taken by the thousands of witnesses to this fire FA was able to create a continuous 3d video of the incident. The videos were aligned with a 3D model of the tower in order to help the public better understand the events that took place on the night of the fire.

# TRIPLE-CHASER

The Safariland Group is owned by Warren B. Kanders, the vice chair of the board of trustees of the Whitney Museum of American Art.

The Safariland Group produces a tear gas grenade.

Tear gas is banned in war but governments and police use it to suppress the rights of civilians to protest in public space.

Using machine learning, FA identified the grenades use in the USA, Turkey, Peru, Iraq, Israel Palestine, Yemin, Bahrain, Tunisia, Guyana, Venezuela, Egypt, and Canada.



Using machine learning to search for images of tear gas grenades manufactured by the 'Safariland group'. Without a large database of images available to allow machine learning, FA connected with activists in Mexico to photograph the tear gas grenades.



The images provided by activists were used to generate thousands of images using a 3d model created by the FA teams. These models were then used to teach the computer how to correctly identify the grenades.

Search terms: tear gas, protest  
Start: 2019-04-05T00:00:00Z  
End: 2019-04-05T23:59:59Z  
Scraping page 0...  
All pages scraped.

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Search terms: tear gas, protest  
Start: 2019-04-06T00:00:00Z  
End: 2019-04-06T23:59:59Z  
Scraping page 0...  
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All pages scraped.

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Search terms: tear gas, protest  
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Search terms: tear gas, protest  
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All pages scraped.

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Search terms: tear gas, protest  
Start: 2019-04-09T00:00:00Z  
End: 2019-04-09T23:59:59Z  
Scraping page 0...



They then directed the program to search online for images and videos of the tear gas manufactured by the Safariland Group. When an image was identified it also produced a percentage of how correct it believed the identification to be.

A black and white photograph of a person wearing a gas mask and a tactical vest, holding a rifle and aiming it forward. The background shows a cloudy sky and a flat landscape.



A collage of five photographs documenting a protest in Puerto Rico. The images show police officers in dark uniforms and riot gear, including helmets and shields, using tear gas canisters against a group of protesters. One image shows a police officer spraying a young boy with pepper spray. The protesters are seen from behind, some holding signs or banners. The scene is chaotic, with smoke and debris visible.



## TAKEAWAYS

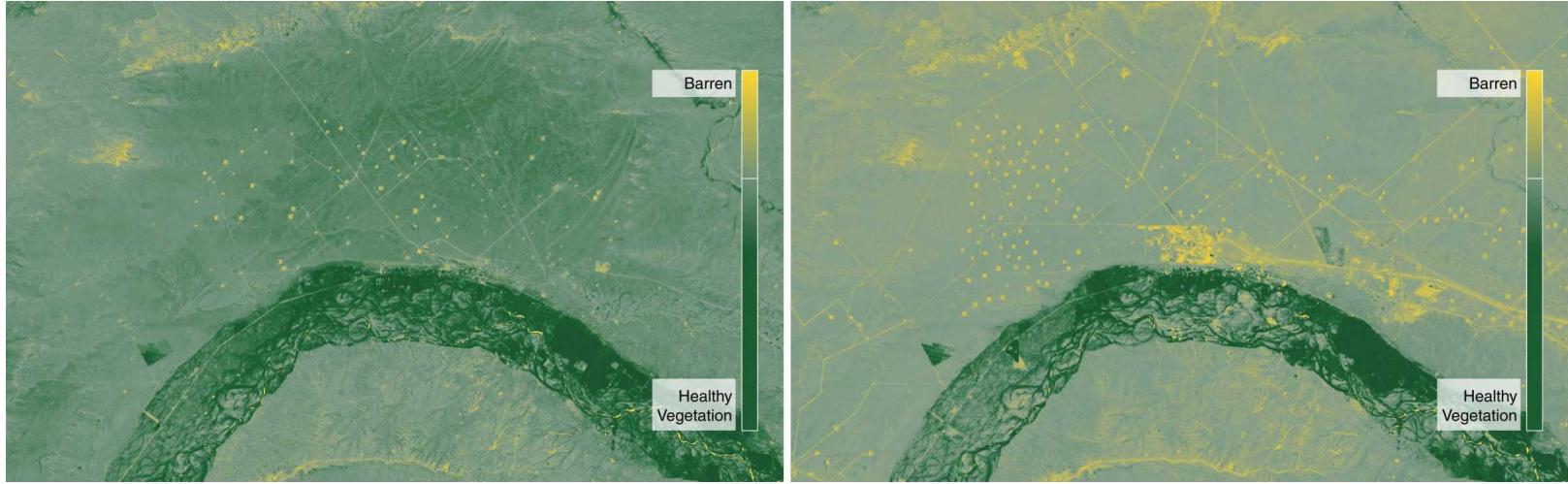
Machine learning through the use of 3D models allowed for the automation of searching the internet for the available information on tear gas. Automating any part of that process was hugely beneficial to human rights monitors, and the pursuit of corporate accountability in the global arms trade.

During the course of their research, they also exposed Kanders' connection to the violence committed by the Israeli military against Palestinians in Gaza, through the US bullet manufacturer Sierra Bullets.

# OIL AND GAS POLLUTION IN VACA MUERTA

In 2013 an agreement was made to allow several American gas companies such as Chevron, Shell, Exxon Mobil etc, to begin fracking on indigenous peoples lands in Argentina.

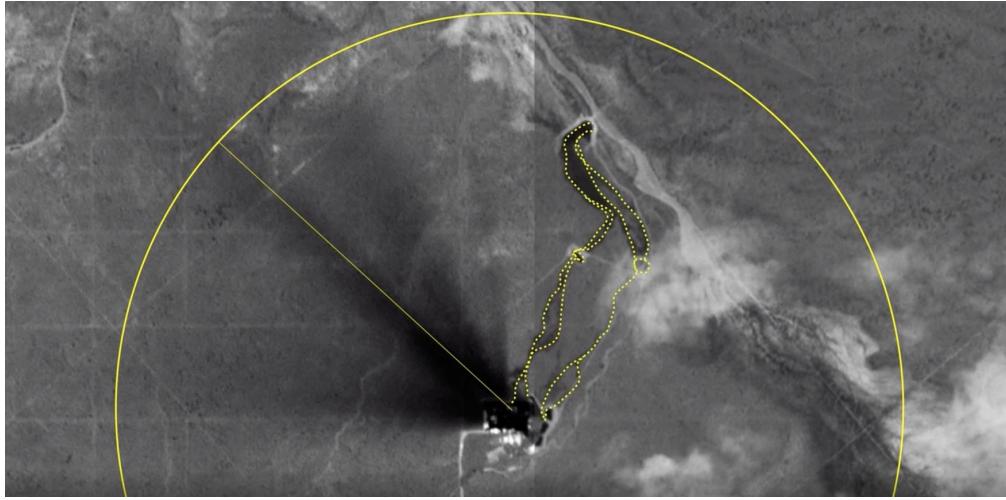
A lawsuit was filed between local people and the american companies after toxic waste was improperly contained and a major oil spill was concealed from the public.



Two side-by-side Normalized Difference Vegetation Index (NDVI) analyses show densities of vegetation in the region around Añelo, Vaca Muerta, in 2013 and 2019.



After a major oil spill in 2018, workers involved shared images from their smartphones. Soon after, smartphones were banned from the site. FA investigated using 3d modeling technology to recreate a scene for evidence showing the severity of the spill.



Through a combination of their 3d recreation of the scene, and satellite imagery, FA was able to estimate the widespread effects of the spill and the contamination of drinking water that followed. .

## CONQUER AND DIVIDE

FA was commissioned by a NGO to create an interactive web platform which retraces the various physical measures by which Israel has implemented its occupation of the West Bank (including East Jerusalem) and the Gaza Strip since 1967.

The project exemplifies the tactics used to break apart and destroy the fabric of palestinian communities.

## FINAL THOUGHTS

FA is unlike much of the data visualization we study in class because it is meant to be very accessible.

Design is intentionally used to tell stories and prove a point.

FA uses their access to data and privilege to help give a voice to people who are victims of corrupt forces.

# Thank you!