Benetech JusticeAI
Turning Conflict Data into Actionable Evidence

Technology has enabled more and more people to capture human rights violations digitally and disseminate their experience in real time. It's our role as technologists to support human rights advocates to responsibly preserve and use that information. Artificial Intelligence (AI) can automate and improve the process of analyzing and making actionable the huge amount of data coming out of these crises to form testimonials and potential paths to justice that were not previously available.

The Need

JusticeAI tackles an evolving challenge with machine learning and computer vision. How do we document and promote accountability for violations of international law in the world of Facebook and YouTube? While social media platforms offer the promise of wider access to truth, and the ability for millions to stand as witnesses to atrocities committed across the world, international justice institutions are still equipped primarily with traditional investigators and analysts. They face difficulty navigating the digital deluge of data.

Nowhere is this challenge more urgent than in the eight-year conflict that has engulfed Syria, creating over 12 million refugees and internally displaced people and destabilizing entire regions from the Middle East to Europe. To address this, Benetech has introduced a pioneering concept. We're strategically applying artificial intelligence, computer vision, metadata analysis, and geolocation methods to sort, identify, preserve, and analyze evidence of abuses and potential war crimes, specifically for the estimated 4 million videos related to the conflict.

Our Approach

Benetech is working with Syrian civil society organizations and supporting the mandate of the United Nations' International, Impartial, and Independent Mechanism (IIIM) on Syrian accountability. Through Benetech's human rights technology leadership, the effort will:

- Create an index of unique "fingerprints" representing each piece of potential evidence that is able to connect decentralized data sets without the need to share sensitive documentation
- Based on this index, de-duplicate, triage, and prioritize documentation for review by investigators and analysts
- Identify which videos and photos have not yet been analyzed, and facilitate coordination between civil society actors for effective, efficient review and analysis
- Assist the IIIM to work more efficiently and develop protocols for the ingestion of structured data from civil society groups

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JusticeAI can scan videos and images and generate unique "fingerprints" for each video as well as a distance measurement for how similar videos are to other fingerprints in the collection. Moreover, the tool is able to detect relationships among videos that go beyond the same manipulated footage, including content that has been significantly edited, buildings filmed at different angles and skylines filmed at different time periods. The automated grouping of such videos are of tremendous utility to investigators.

Video comparison of buildings filmed at different angles

Benefits

- Processing times as fast as 3 seconds per video
- Ability to automatically catalogue data according to duplicate and near duplicate content
- Relate content with 99% recall and precision rates — accuracy that exceeds equivalent tools on the market
- Minimize exposure to graphic content by only reviewing images once instead of multiple times
- Understand similarities of content across organizations and collaborate with others on analysis without needing to share sensitive documentation
- Ability to identify the original source of documentary evidence, or the best available evidence
- Enable accountability mechanisms, like the IIIM

This initiative brings together experts from a variety of disciplines including computer science, data science, law, journalism, and political science along with human rights defenders and international organizations.

About Benetech

Benetech is a nonprofit that empowers communities with software for social good. Benetech's work transforms how people with disabilities read and learn, enables human rights defenders and civilians to pursue truth and justice, and connects people to the services they need to live and prosper. Benetech is constantly pursuing the next big social impact. Visit www.benetech.org.

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