## - CrowdAl

## AUTOMATED WILDFIRE MAPPING

**REST SER** 

May 2022

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CrowdAl | Government Solutions www.crowdai.com

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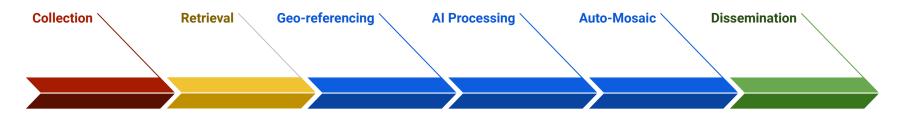
- In 2018, CrowdAI was the first hire by the newly-establish Joint Artificial Intelligence Center to build "FireNet"
- Since 2019, FireNet has automatically detected wildfire from thermal sensors hosted on the MQ-9 drone flown by CA ANG
- Fire detections are mosaiced in near-real-time to map firelines, which are shared to first responders with CAL FIRE
- In 2020, Congress divested disaster response from the JAIC; however,
- Through the 2021 fireseason, FireNet's automated production workflow was used continuously by CA ANG and CAL FIRE for situational awareness to protect lives and property

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### Computer Vision Automated Workflow

A low-touch, automated pipeline frees users to optimize their time



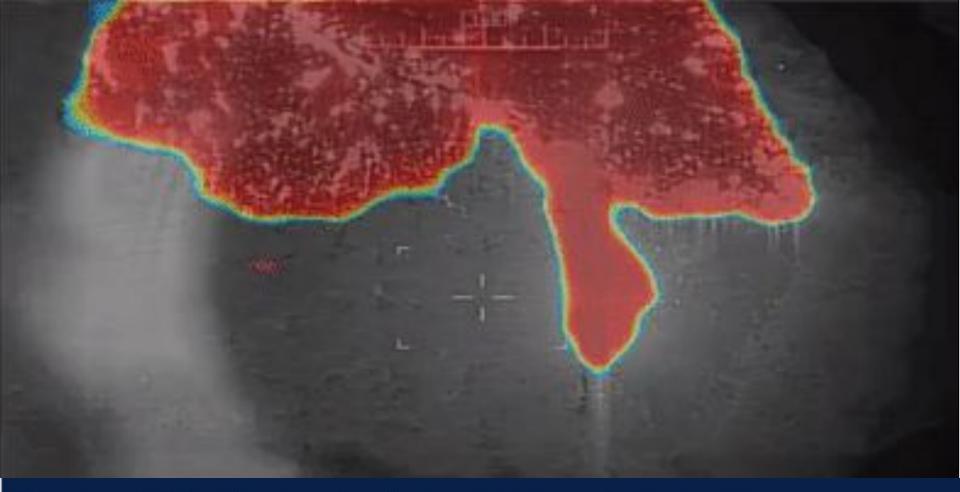
EO/IR full motion video collected by CA ANG MQ-9 remotely piloted aircraft FMV feed transmitted to air operations center at March ARB FMV data passes through georeferencing software to tie each video frame to a lat/long Convolutional neural networks and other Al architectures detect target features in real-time Fireline detections are mosaiced to form a common picture of the operations environment Mosaic output is projected in the 163rd Attack Wing common operating picture and disseminated to CAL FIRE firefighters and air operations





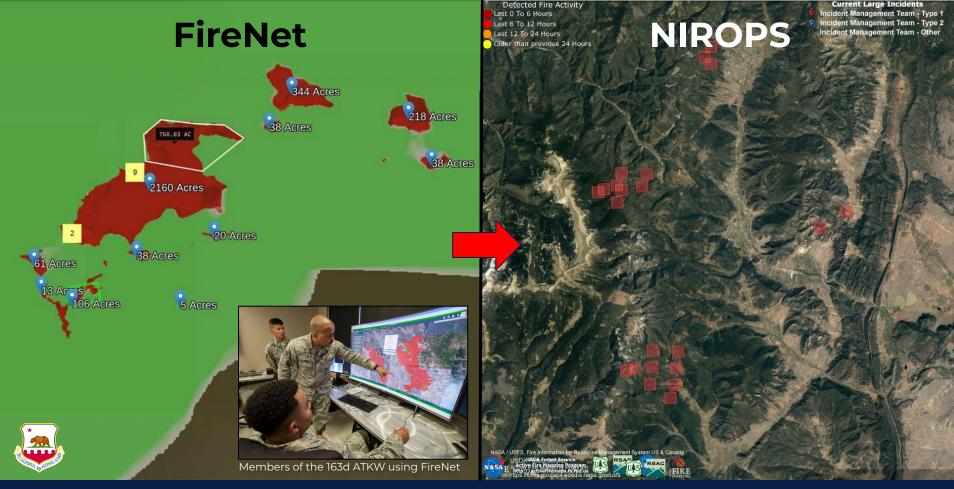
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# CrowdAl FireNet built for JAIC and CA ANG Distribution Statement A: Approved for Public Release

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#### CrowdAl Add high-resolution fireline to NIROPS data layers

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- 1. JAIC Blog | The JAIC Is Supporting National Guard Efforts to Combat Destructive Wildfires
- 2. WIRED Magazine | The National Guard's Fire-Mapping Drones Get an Al Upgrade
- 3. VICE Magazine | Spotting Wildfires Is Slow, Manual Work. AI Could Change That
- 4. NeurIPS | FireNet: Real-time Segmentation of Fire Perimeter from Aerial Video
- 5. NVIDIA Blog | Startup Uses Satellite Imagery to Assess Hurricane, Fire Damage

\* This page contains hyperlinks

