Summary

       In the AP News article, "The threat of wildfires is rising. So are new artificial intelligence solutions to fight them" written by Kelvin Chan, it is reporting on how firefighting agencies are now implementing AI solutions to help fight wildfires because of how ramped wildfires are now. Wildfires fueled by climate change are becoming more intense & common and there ravaging communities from Maui to the Mediterranean, killing many people. To combat this, many companies and government agencies have started implementing AI technologies to detect wildfires and help firefighters do their job. California's main firefighting agency this summer has started working on an AI system that looks for smoke from 1,000 mountaintop camera feeds. This system is designed to find abnormalities and alert emergency command centers where humans will confirm whether it's smoke or something else in the air. Dispatchers said that if they hadn't been alerted then the fire would've become much larger and would have been unnoticeable until the next morning.

       A San Francisco startup Pano AI takes a similar approach with mounting cameras on cell towers to scan for smoke and alert the customers(fire departments, utility companies, and ski resorts). The cameras use computer vision to detect smoke through training images(combined with feeds from government weather satellites that scan for hotspots, along with other data sources, such as social media posts) of smoke and not smoke. This technology eliminates one of the main problems in the traditional way of detecting wildfires— relying on 911 calls from passers-by that need confirmation from staffers before crews and water-dropping planes can be deployed. Microsoft has also been developing open-source AI models to predict where fires are likely to start. The AI model was fed data from maps of areas that burned previously, along with climate and geospatial data. This AI model has its limitations, as it can't predict random events like a lightning strike. However, it can go through historical weather and

climate data to identify patterns, such as areas that are typically drier. This AI tool can help first responders try to figure out where to focus their limited resources. A German startup company OroraTech analyzes satellite images with artificial intelligence. OroraTech has launched two mini-satellites about the size of a shoebox into low orbit, about 550 kilometers above the Earth's surface. This allows AI technology to provide thermal images at night when aerial drones are used less frequently. The algorithms on the satellite are efficient in detecting fires even faster and will also take into account vegetation/humidity levels to identify flare-ups that could spawn devastating mega fires.

Personal Opinion

Overall, I strongly agree with the fact that companies and government agencies are developing AI systems to help fight wildfires because with how intense climate change is becoming, wildfires will become more common and more intense. With AI technologies, I believe we're going to allow firefighters more resources to help save lives and protect the environment. I also like how the companies and government are also assisting each other to build AI systems. For example, Pano AI uses images from government weather feeds to create AI models to detect whether or not it's smoke. However, I do hope that these companies won't use these AI systems for bad things because AI systems have problems with bias/privacy, and security risks.

While I believe that developing AI systems will help firefighters stop intense wildfires, I think another big issue is the rise of climate change in the world. Climate change can lead to hotter temperatures due to greenhouse gas concentration rise, more severe storms, increased drought, warmer and rising oceans, loss of species, increased health risks, and poverty & displacement. To solve this problem, I believe we as people should do more environmentally friendly actions and companies can implement new environmental solutions. Another solution would be for the government to create effective policies to prevent further damage to the environment and encourage people to be more environmentally conscious.

Citation

Chan, Kelvin. "The threat of wildfires is rising. so are new artificial intelligence solutions to fight them". AP NEWS. Associated Press, September 24, 2023.
https://apnews.com/article/artificial-intelligence-fighting-wildfires-climate-change-62002360f2e3be32ccc7df020239efea