
XPRIZE
WILDFIRE
PG&E
GORDON AND BETTY
MOORE
FOUNDATION
XPRIZE WILDFIRE
SPACE-BASED TRACK
FINALIST TEAMS
LOOKBOOK

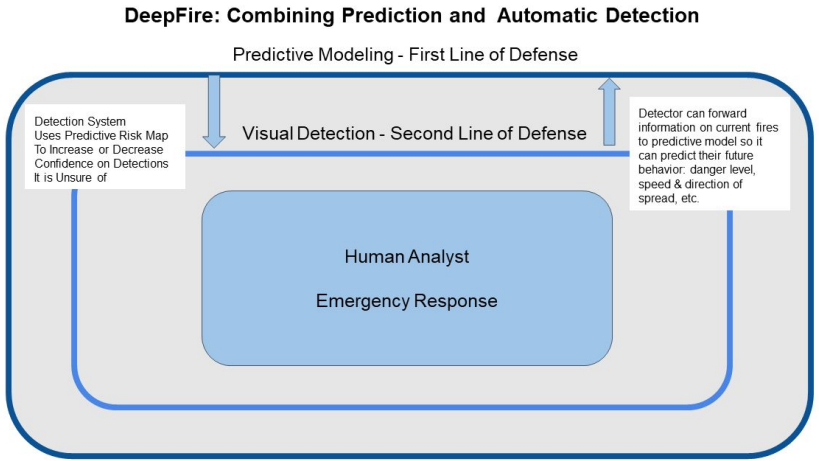
DEEPFIRE

BATON ROUGE, LA, USA

Supratik Mukhopadhyay, Professor of AI at LSU, leads the team. Previously, he led a team to the semifinals of AI XPRIZE. Other members: Dr. Robert Dibiano, Richard Barbalace, Dylan Wichman, Matt Braun.

ABOUT THE SOLUTION

- Our Our system is a combination of an AI-based wildfire prediction system and an AI-based wildfire detection system that interact synergistically.
  - Detection System uses Predictive Risk Map to increase or decrease confidence on detections it is unsure of.
  - Detector can forward information on current fires to predictive model so it can predict their future behavior: danger level, speed & direction of spread, etc.



EMBER GUARD - A WILDFIRE WATCH GROUP

PALO ALTO, CA, USA

Ember Guard is a cross-disciplinary team led by a high school sophomore along with materials scientists, entrepreneurs, wildfire-focused atmospheric modeling experts, mathematicians, and senior research scientists.

ABOUT THE SOLUTION

- Fuse low to high resolution satellite data with atmospheric conditions and social media.
- Use deep learning along with LLM and AI techniques to detect wildfires.
- Use a scalable cloud-based high resolution wildfire model to forecast the likely propagation and intensity of a given wildfire so that firefighters can prioritize their limited resources.

FIRE EYE

HILLSBORO, OR, USA

Team Fire Eye is a veteran in first responder-based research and development with extensive expertise in computational vision algorithm development, aerospace sciences and communication protocols.

ABOUT THE SOLUTION

- Multiply sourced hyperspectral image analysis.
- Employ existing infrastructure for cloud computation and ground control stations.
- Ensemble models to predict Fires and their behavior.
- Multiple communication channels for effective information dispersal.

GENERATIVE INTELLIGENCE

MALAGA, SPAIN

Generative Intelligence joins forces with top satellite companies to revolutionize firefighting. With cutting-edge AI and a personal stake in fire-prone Andalusia, we're driven to save lives and land.

ABOUT THE SOLUTION

- Leveraging a cascading AI system, our solution first identifies high-probability fire zones by integrating satellite imagery and historical, climatic, and terrain data.
- High-risk areas undergo detailed analysis using cutting-edge AI to pinpoint fires, monitor spread, and evaluate impact, enabling swift emergency response.
- Scalable and adaptable, our solution can incorporate new data sources and expand to new areas.

MYRADAR

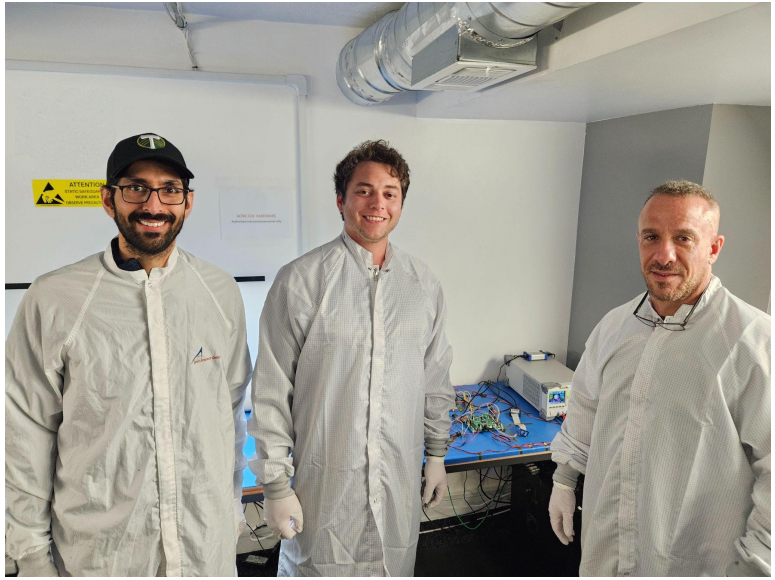
ORLANDO, FL, USA

MyRadar is a technology company that builds situational awareness products trusted by millions of customers. Our satellite team consists of several dedicated engineers and subject matter experts.

ABOUT THE SOLUTION

- MyRadar specializes in building AI technology and robust data pipelines to deliver data, visualizations, and environmental alerts.
- Our patented miniaturized satellite technology uses spectral imagers and onboard AI optimizations to enable rapid alerting for environmental hazards, such as wildfires.
- Our mission is to democratize real-time information that allows better, more risk-informed decisions, and our constellation of satellites will provide data and alerting toward this goal.

LEARN MORE: myradar.com



ORBITAL SIDEKICK

SAN FRANCISCO, CA, USA

Orbital Sidekick's XPRIZE team consists of hyperspectral imaging and data scientists as well as payload engineers, technical leaders, product managers, and UI/UX designers.

ABOUT THE SOLUTION

- Orbital Sidekick will use a combination of hyperspectral and multispectral satellite images which allow speciation of vegetative materials and detection of combustion.
- Orbital Sidekick's GHOSt constellation currently consists of 6 satellites, 5 of which are already in orbit and acquiring data and 7+ in development.
- Orbital Sidekick is building the most advanced constellation of hyperspectral satellites with unmatched global monitoring capacity through its spatial and spectral resolution.

LEARN MORE: orbitalsidekick.com

REDBACK FIRE TEAM

MELBOURNE, AUSTRALIA

Redback fire comprises members from RMIT University & Covey Associates PTY LTD, bringing together expertise in wildfire detection & attribution and fire behaviour & modelling.

ABOUT THE SOLUTION

- We propose a two-phase, integrated and robust solution to wildfire surveillance and characterization. Phase 1 aims to detect wildfires within 1 minute using a constellation of EO sensors.
- The algorithm is tailored to accommodate geographical, seasonal, and diurnal variations. This module is currently operational in Australia, delivering hotspot notifications within 20-45 seconds.
- Phase 2 accurately characterizes fire detections and behaviour using a hybrid-model approach within 10 minutes.

SIRIUS WILDFIRE ALLIANCE

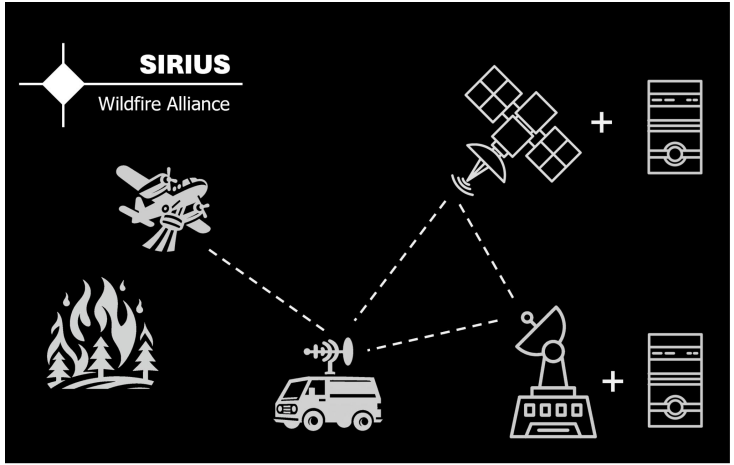
LONDON, UNITED KINGDOM

SIRIUS Wildfire Alliance brings together young engineers, established academics, researchers in top universities, ambitious startups from the UK and Australia, and wildfire management professionals.

ABOUT THE SOLUTION

- SIRIUS will deliver high-resolution wildfire nowcasting and forecasting by integrating Earth Observations, AI, GIS, a cutting-edge wildfire spread model and a unique combination of ground and space edge computing.
- By leveraging onboard computations and efficient telemetry, we can employ advanced but typically time-consuming techniques for granular spread and false positive detection, provide early information for emergency response, and recommend efficient firefighting resource allocations.

LEARN MORE: linkedin.com/showcase/sirius-wildfire-alliance/



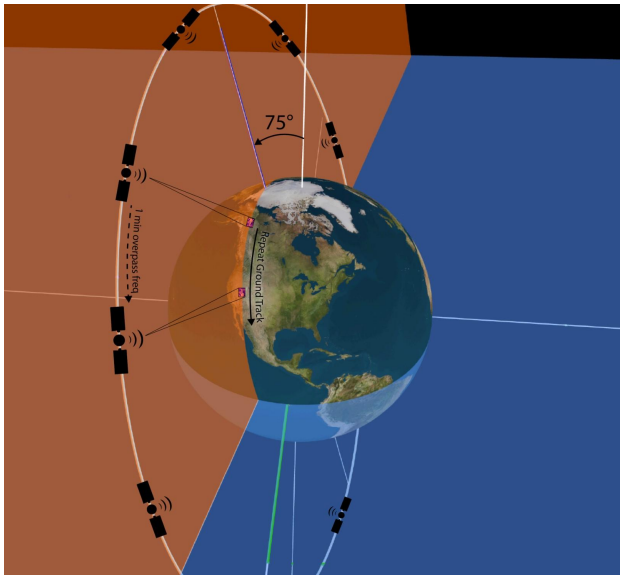
SNUFFED

FLAGSTAFF, AZ, USA

The Snuffed team currently has 25 engineers, scientists, firefighting and fire management experts, students, and private sector industry professionals.

ABOUT THE SOLUTION

- We propose a “string of pearls” constellation of 90 micro-satellites or CubeSats in low Earth orbit (LEO). The orbital period in LEO is 90 minutes, so one unit in our constellation passes over a given ground location once per minute.
- Our rapid detection strategy, when fully implemented, has the potential to reduce these costs and damages enormously
- This is a game-changing advance in humanity’s approach to combating wildfires.



MAYDAY.AI (GUARDIAN SPACE)

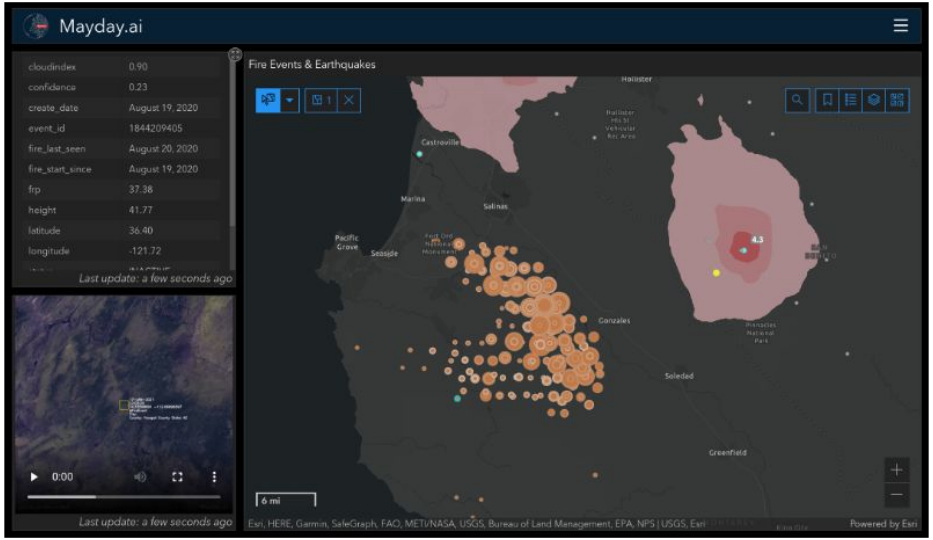
DARMSTADT, GERMANY

Mayday.ai's team boasts seasoned specialists in wildfire surveillance, disaster management, and cutting-edge remote sensing technologies.

ABOUT THE SOLUTION

- Real Time Wildfire Detection and Monitoring Globally
- Early Warning Access For All
- Community Centric Solutions

LEARN MORE: mayday.ai



WOOLPERT DI CLOUD GEO TEAM

DAYTON, OH, USA

We're a team of remote sensing scientists, cloud engineers, AI/ML experts, and environmental scientists. We build scalable models and analytical platforms based on Earth Observations and AI.

ABOUT THE SOLUTION

- Our solution is based on the orchestration of several models and satellite sources through different phases: early risk assessment, rapid fire detection, fire characterization, and operational delivery.
- Forecasting models, computer vision, deep learning, and first-principles models will be deployed alongside a variety of public and commercial satellite sources.
- The overall workflow will be automated into a platform designed to send operational insights and alerts to relevant stakeholders.

LEARN MORE: innovations.woolpert.com

WOOLPERT
DIGITAL INNOVATIONS

WANT TO KNOW MORE?

To learn more about the Qualified Teams or how you can support XPRIZE WIldfire please email:

wildfire@xprize.org