

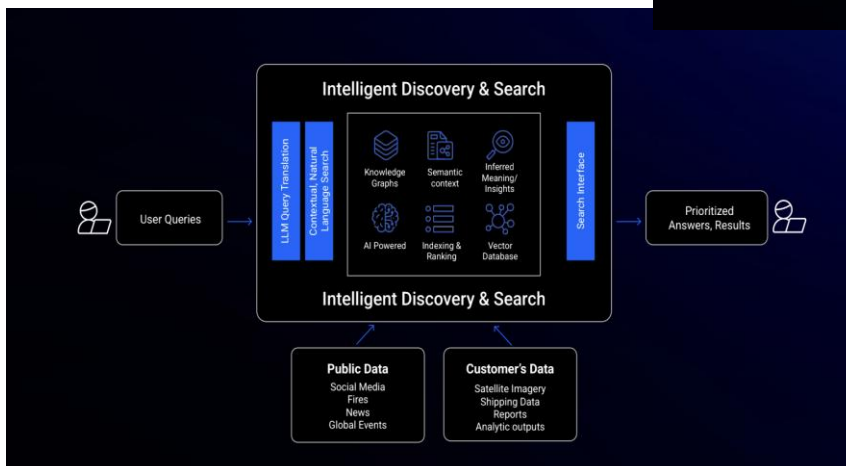
Multimodal AI for Rapid Disaster Response

Danti is enhancing its multimodal AI system with Large Language Models to deliver real-time disaster impact assessments. The platform combines satellite imagery, sensor data, and public sources to help agencies act faster, file disaster declarations sooner, and get aid to communities quickly.

THE SOLUTION

Danti is the first knowledge engine for Earth's data

- Learn everything there is to know about **any point on Earth**, instantly
- **Pose simple questions**, just like you would in conversation
- Instantly **access and synthesize information** generated by satellites, drones, analytics firms, reports, news, social media, fires, shipping data etc.
- Get your insights in an **intuitive interface**



Applications

- **Emergency Management:** Empowers rapid triage and prioritization of damage zones post-disaster.
- **Public Safety & Aid Delivery:** Ensures timely access to critical relief by expediting response workflows.
- **Interagency Coordination:** Supports local, state, and federal teams with unified, real-time intelligence.

AI-Enabled Situational Awareness

Integrates FEMA, USGS, and social-media data feeds with satellite imagery and LLMs to automate disaster impact triage.

Accelerating Federal Aid

Generates up-to-the-second damage assessments, cutting manual reporting from hours to seconds and speeding declarations.

Team

Danti (Martice Nicks, CTO; Dr. Anthony Hylick, Head of Engineering and AI; Dr. Charlie Veal, Sr. AI Engineer)

Key Features

- **Multimodal AI Integration:** Processes and correlates data from satellites, sensors, news, and social platforms simultaneously.
- **LLM-Powered Analysis:** Uses advanced language models to interpret and summarize structured and unstructured sources.
- **Operational Efficiency:** Cuts hours of manual reporting down to seconds, enabling faster, smarter decisions.

Generative AI for Geospatial Challenge

Technical Challenges

- The Federal Emergency Management Agency (FEMA) getting approval to use Danti software on their laptops as an approved system, approvals still underway.
- Understanding real time fire extents without having access to imagery:
 - Built custom analysis flow using winds, known fire locations and other data to get close to exact daily burn extents
- Language understanding for various types of events, ways they are referred to, etc.
- Integrating various forms of weather data and tying semantically to other data and questions.

Observations and Lessons Learned

The team already had a good feel for both GenAI and Geospatial as it is the focus of their company and they did not work with any other teams in the Challenge.

Next Steps

- FEMA getting ATO approvals to use Danti on their machines and in their formal workflows.
- Deploying it to US Space Force users as well (they are using it for international events now.)

Customers

FEMA, USGS, Space Force and the Joint Commercial Office all are now using what was deployed.

