



Product Story

Satellite imagery of Earth's entire surface is collected every day, resulting in a rich archive containing petabytes of data. To analyze this data with traditional AI methods, one would have to manually label all of it — an insurmountable burden.

When reports of a Chinese balloon flying over the U.S. captured national attention, we knew it could be the ultimate test of our novel AI's ability to analyze massive unlabeled datasets. RAIC could be the magnet to pull the needle out of a haystack of geospatial data.



Read the full story of how we tracked the balloon

A Textbook Case for RAIC



Artificial Intelligence (AI) has historically relied on extensive human labeling and the building of bespoke models. So how could AI find something in satellite data that had never been found in satellite data before? There wasn't a single reference image, let alone the tens of thousands needed to even begin training a traditional supervised model. That's where RAIC came in.

Rapid Automatic Image Categorization (RAIC) automates the analysis of large, unstructured datasets (satellite, image, and video). RAIC is radically faster than traditional approaches. It allows you to quickly search and categorize data, rapidly develop and train AI models, and get insights at scale — solving AI's underlying speed-to-insight problem.

To find the Chinese balloon, we started with a hand-drawn image of what the balloon might look like in the satellite data.

We fed the sketch to RAIC, and searched imagery taken above South Carolina shortly before the balloon was shot down. RAIC returned a positive match within two minutes.

In total, RAIC detected the balloon 12 times and tracked it over its two-week journey from China to South Carolina across millions of square miles of commercially-available PlanetScope data.

The Great Balloon Search Continues

RAIC's unique ability to detect the balloon across a massive unlabeled satellite dataset garnered international attention, including coverage in Wired, Space News, and The New York Times.

When the BBC investigated a suspected large-scale surveillance balloon program out of China, they hoped RAIC could find the evidence they were looking for. RAIC confirmed the presence of balloons over Japan and Taiwan in September 2021. These balloons matched the profile of the one seen over the U.S. in 2023.

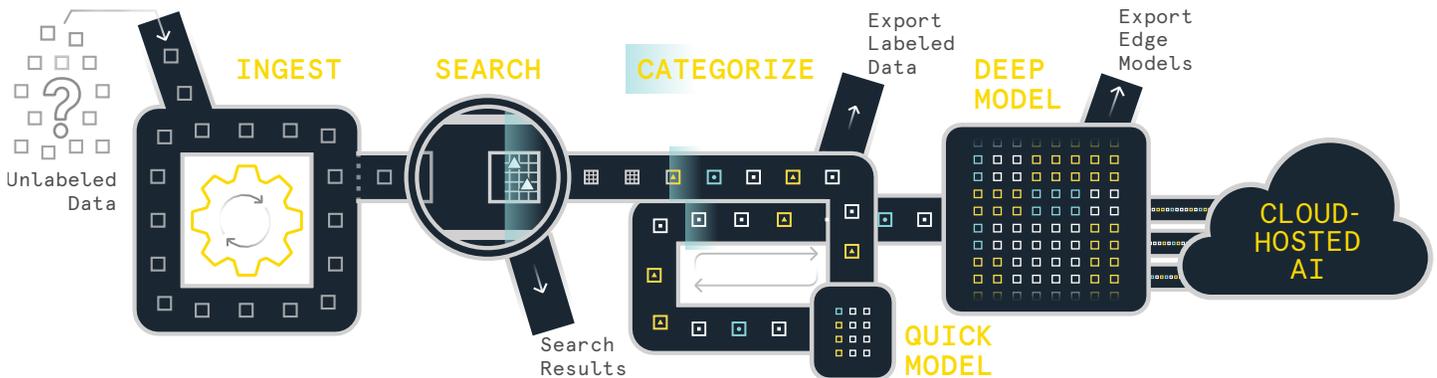


Read the full BBC article

Now that Synthetac has uncovered this evidence, the question becomes: what will they find next? What's still waiting to be discovered in satellite imagery? For commercial, government, and non-profits using RAIC, the possibilities are endless.

Detect Anything In Minutes

There's an almost unfathomable quantity of geospatial data available today, with more being captured every second, and RAIC makes it possible to make sense of it all. The same can be said of other data-prolific use cases, including security cameras, drone flights, and many more.



With RAIC, you can ingest, search, and categorize your data, run inference, and integrate with cloud-hosted APIs. Intuitive human-machine collaboration allows you to “nudge” the AI as you go, testing and iterating faster than ever before.

Find anything, anywhere. What will you RAIC for?