SKYWATCH INNOVATION HIGHLIGHT

SKYWATCH

COMPANY OVERVIEW

SkyWatch currently offers two solutions for earth observation needs: EarthCache and TerraStream. EarthCache aggregates the world's satellite data in one place, and TerraStream is a cost-effective automated data management and distribution platform for satellite operators. Their solution uses AI models that detect clouds across a variety of satellite image sources with varying bands, resolutions, and dimensions. By doing so, SkyWatch improved product reliability and reduced operational costs.

LOCATION: KITCHENER, ON

TECHNOLOGY

Artificial Intelligence

CLOUD MASKING FOR QUALITY SATELLITE IMAGES

Clouds are one of the biggest blockers when extracting insights from satellite imagery. When satellite images are searched, ordered, and downloaded by customers, there's a big possibility that they will receive a huge number of images deteriorated by clouds. In addition, machine learning services are a scarce resource, both in terms of industry use and accessibility. Most services for earth observation commercial applications are for internal use and lack complex capabilities such as accurate cloud masking and the ability to screen out defective images.

RELIABLE EARTH OBSERVATION DATA

Offering reliable cloud masking for satellite images spans several market opportunities. SkyWatch is on a mission to become one of the first earth observation aggregators to provide accurate cloud masking, thus shifting the focus of data users from data availability to data quality and reliability. Furthermore, SkyWatch offers improved object detection capabilities outside of internal use, allowing customers to perform various object detection tasks through application programming interface endpoints. Data consumers can focus directly on insights gained from images, and providers can focus directly on their satellite missions and data distribution.

TESTING CLOUD DETECTION ALGORITHM ACCURACY

With the CENGN Testbed, SkyWatch verified that their cloud detection algorithm met the required accuracy and runtime criteria. They also identified the most efficient machine learning model for their algorithm. SkyWatch compared their performance to newer models to test and confirm that their image quality software can hold a large enough dataset for their minimum viable product. Additionally, SkyWatch figured out what resources they need to reach their performance goal.

"Our work on the CENGN Testbed led us to accurate methods for detecting clouds in satellite images and enabled the distribution of cloud-free orders to our existing and future customers."

Joel Cumming
Chief Technical Officer,
SkyWatch

SKYWATCH
Joel Cumming, Chief Technical Officer
joel@skywatch.com
skywatch.com/

CENGN
Rick Penwarden, Sr. Manager, Marketing
rick.penwarden@cengn.ca
cengn.ca/projects